A STUDY OF PERCEIVED MEDICAL SERVICE QUALITY AT ACUPUNCTURE
DEPARTMENT IN SHANGHAI FIRST PEOPLE'S HOSPITAL OF THE PEOPLE'S
REPUBLIC OF CHINA

By

YAN YE

A Thesis submitted in partial fulfillment
of the requirements for the degree of

Master of Business Administration

Graduate School of Business
Assumption University
Bangkok, Thailand

December 2005

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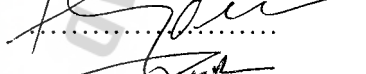
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Abstract

Customer service and quality are driving forces in the business community. As hospital institutions struggle for competitive advantage and high service quality, the evaluation of medical service quality is essential to provide motivation for and to give feedback on the effectiveness of hospital plans and implementation.

This research utilized Parasuraman's SERVQUAL Model to measure the correlation between patients' expectation and perception of medical service quality. In this study, the research objective is twofold: the first is to measure the patients' perceived medical service quality offered by Acupuncture Department at Shanghai First People's Hospital in twos of Tangibility, Reliability, Responsiveness, Assurance, and Empathy. The second is to measure the patients' perceived medical service quality offered by Acupuncture Department at Shanghai First People's Hospital in terms of demographic factors: Age, Gender, Education Level, Occupation and Monthly Income. The main purpose of this study is to provide feedback information acquired systematically from the patients by applying the service quality instrument - SERVQUAL Model to measure the patients' expectation and perception of medical service quality in order to improve the quality of medical service at Acupuncture Department in Shanghai First People's Hospital of the People's Republic of China. The SERVQUAL Model is the most well known and discussed scale for measuring perceived service quality.

Sample survey technique is applied in this study for which self administered questionnaires are established in order to collect the research data. The target population consisted of patients who use the Acupuncture Treatment at Acupuncture Department in Shanghai First People's Hospital of the People's Republic of China. Convenience sampling method is used in collecting data from 390 patients from the Acupuncture Department. Pair Sample t-test is applied in testing the relationship

between patients' expectation and perception of perceived medical service quality. Statistical Package for Social Science (SPSS) program is used as a tool of analysis.

In this study, from the overall information the researcher found out that the patients in this Acupuncture Department are satisfied only with Reliability and dissatisfied with the department's Tangibility, Responsiveness, Assurance and Empathy; and the patients with Master Degree, Private job patients and patients with Monthly Income between 3001-5000 RMB are the group who are satisfied with medical services offered by Acupuncture Department at Shanghai First People's Hospital in this study.

The research offered several comments on the service and performance of the Shanghai First People's Hospital that it should provide proper psychotherapy to customers who are afraid of needles, and annual reports and cases of acupuncture treatment to customers to increase propagandistic frequency, change people's mentality information on the effectiveness of acupuncture-therapy, banting and beauty to open a new market, guarantee the customers' privacy, provide comfortable and secure environment and medical care, and improve the performance and provide customers added value services to satisfy customers' complaints.

Acknowledgment

There are sincere appreciations, I would like to express for the support and help I got for the accomplishment of this research.

First of all, I would like to express my sincere gratitude and deep indebtedness to Dr. Thongdee Kijboonchoo, my research advisor for his expertise, guidance, encouragement and cooperation in enabling the completion of this research. The study would not have been accomplished without Dr. Thongdee's persistent guidance, inspiration and encouragement throughout the research. His invaluable comments and advice helped me keep on the right track during the research and finally led me to achieve the purpose of this study that is to find out feedback information acquired systematically from patients by applying service quality instrument - SERVQUAL Model.

I am greatly indebted to Dr. Somprot Sarakosas, Dr. Witsaroot Pariyaprasert, Dr. Jakarin Srimoon and Dr. loan Srimoon who are the members of my thesis committee for giving me constructive criticism and very helpful suggestions to improve my thesis.

Many thanks are also due to the management team of the Shanghai First People's Hospital, especially the Acupuncture Department. During the research and research survey, the management team provided indispensable support.

Last but not least, my heartiest thanks and sincere gratitude go to my friends, my beloved parents, my sister and my husband for their love, encouragement and assistance that made me brave enough to get over all the difficulties and obstacles to accomplish my study.

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CHAPTER 1
GENERALITIES OF THE STUDY

This chapter includes introduction of the study, statement of problems, research objectives, scope of the research, limitations of the research, significance of the research, and definitions of terms.

In addition, the introduction of this study includes definitions, basic knowledge and history of the Acupuncture Treatment, introduction of the Shanghai First People's Hospital and its Acupuncture Department.

1.1 Introduction of the Study

Acupuncture, the art of Chinese healing can be dated back at least two thousand years. Some authorities maintain that acupuncture has been practised in China for even four thousand years. Though its exact age is vague, what is certain is that up until the recent twentieth century, much of the population of the world was informed about acupuncture, its origins, and its capacity to promote and maintain good health. Even today in relatively "advanced" nations such as the United States there are many who hold acupuncture under the stereotype of a new or radical medicine, one which would almost always be a second choice after more familiar western approaches to handling illnesses.

In recent years, it seems to be a growing global trend of seeking alternative medical treatments, such as acupuncture, traditional herbal treatment, aromatherapy, just to name a few, instead of the usual western medical treatment. Among the alternative treatments, acupuncture is considered to be the up and coming, which is currently gaining overwhelming popularity due to its mystical healing power. (http://www.medicalacupuncture.org, July 05 2005)

The demand of acupuncture is increasing in the world, especially in the United States. Acupuncture has become one of the most popular forms of complementary

medicine. A survey in the early 1990s indicated that Americans spent more than $13 billion annually on alternative therapies. Fourteen million Americans received Acupuncture Treatments in 1999, while the United States government has allocated over $1.5 million in studies of the effectiveness of Acupuncture Treatment. The number of patients at the student clinic in the American College of Acupuncture and Oriental Medicine in Houston, increased by more than 112% from 1999 to 2003 (Liang, 2004). Now acupuncture is one of the Complementary and Alternative Medicine (CAM) therapies that are more commonly covered by some insurance.

In Thailand, the Medical Department of the Ministry of Public Health (Medical Governing Authorities) first started an acupuncture-training course for doctors in 1998 with an aim to make specialists available to provide patients with this particular treatment. There are now many hospitals, both privately and state run, as well as specialist clinics offering acupuncture as an alternative medical treatment for patients. The Thais' acceptance of the Acupuncture Treatment is jointly being triggered by the recognition from the western medical world, and the nature of less costly treatment, which is perceived to have fewer side effects (http://www.acutimes.com, June 25 2005). These factors also make more and more patients and physicians accept the Acupuncture Treatment around the world.

1.1.1 Introduction of Acupuncture Treatment

Acupuncture is a healing method by inserting needles and applying heat or electrical stimulation at very precise acupuncture points. It can promote the body's natural healing power and improve the body's functions by itself or with other techniques, such as conventional western medicine, osteopathic or chiropractic adjustments, and homeopathic or naturopathic prescriptions. Acupuncture is particularly useful in resolving physical problems related to tension and stress and emotional conditions. Otherwise, the kind of treatment can influence three areas of health care: promotion of health and well-being, prevention of illnesses, and treatment of various medical conditions (http://www.acupuncture.com, July 05 2005).

Acupuncture and moxibustion are two distinct therapeutic methods frequently used in conjunction in Acupuncture Treatment. Acupuncture treats a disease by

puncturing certain points of the human body with metal needles, while moxibustion is applying heat produced by ignited moxa-wool over the points of the surface of the skin. Though equipment or materials used in the two methods are different, therapeutic and preventive results in both are achieved through promoting smooth circulation of the channels and adjusting *Qi* and blood by stimulating the points and channels (Sun and Sheng, 1998).

One of the most important concepts of the Acupuncture Treatment is natural balance. From this idea of balance arises the fundamental theory of Yin and Yang. According to this theory, life takes place in the alternating rhythm of Yin and Yang.

*"Day gives way to night, night to day; a time of light and activity **(Yang)** is followed by darkness and rest **(Yin)**. Flowers open and close, the moon waxes and wanes, the tides come in and go out; we wake and sleep, breathe in, breathe out. Yin/Yang is a constant, continual flow through which everything is expressed on one hand and recharged on the other. They are an inseparable couple. Their proper relationship is health; a disturbance in this relationship is disease"* (Sun and Sheng, 1998).

Huang Di Nei Jing, or "The Yellow Emperor's Canon of Internal Medicine," which is considered to be the best known and earliest of Chinese medical texts:

Yang has its root in Yin.

Yin has its root in Yang.

Without Yin, Yang cannot arise.

Without Yang, Yin cannot be born.

Yin alone cannot arise; Yang alone cannot grow.

Yin and Yang are divisible but inseparable (Sun and Sheng, 1998).

The well-known symbol of the Yin-Yang further demonstrates that nothing is pure Yin or pure Yang; black and white embrace and intertwine in perfect symmetry, each side containing a small seed of its opposite. The conclusion drawn from this theory is that good health entails the balance and harmony of all that is Yin and all that is Yang within the body.

When such a proper balance of forces exists, the body has achieved a healthy circulation of the life force Qi (roughly pronounced "chee"). In Chinese medicine it is theorized that the human body, as well as every other living thing, has a natural flow of Qi throughout it. Qi is said to travel the body along channels called "meridians," of which there are mainly fourteen. Qi flows constantly up and down these pathways, and when the flow of Qi is insufficient, unbalanced, or interrupted, Yin and Yang become unbalanced, an illness may occur. An understanding of the relationship between the body, Yin and Yang, and Qi is necessary to understand the utility of acupuncture.

On the most basic levels, acupuncture can be described as the insertion of very fine needles (sometimes in combination with electrical stimulus or with heat produced by burning specific herbs, called Moxibustion.) into the skin at specific acupuncture points in order to influence the functioning of the body. Traditionally, there are 365 acupoints on the body, most of which have a specific energetic function. Some are the meeting of meridian pathways while others are junctions with an internal pathway of the meridian. Some points tend to move Qi towards the interior of the body while others bring energy to the surface. The choice of acupuncture points varies from patient to patient and from treatment to treatment and relies on very careful diagnoses of different kinds. Diagnosis entails the observation of the body through looking, touching, smelling and listening. One of the primary and fundamental diagnostic methods of traditional Chinese medicine is pulse taking, which is far more intricate than pulse taking in the West. It has been said to take upwards of fifteen years to master this diagnostic art (http://www.acupuncturetoday.com, August 05 2005).

Today the Acupuncture Treatment is practised widely in Asia, the Soviet Union, and Europe. Moreover, it is now being used more and more in America by patients and physicians. The World Health Organization (WHO) recognizes acupuncture and traditional oriental medicine's ability to treat over 57 common disorders (http://www.acuall.org, May 25 2005), including:

1. Gastrointestinal disorders, such as food allergies, peptic ulcer, chronic diarrhea, constipation, indigestion, gastrointestinal weakness, anorexia and gastritis.

2. Urogenital disorders, including stress incontinence, urinary tract infections, and sexual dysfunction.

3. Gynecological disorders, such as irregular, heavy, or painful menstruation, infertility in women and men, and premenstrual syndrome (PMS).

4. Respiratory disorders, such as emphysema, sinusitis, asthma, allergies and bronchitis.

5. Disorders of the bones, muscles, joints and nervous system, such as arthritis, migraine, neuralgia, insomnia, dizziness and low back neck and shoulder pain.

6. Circulatory disorders, such as hypertension, angina pectoris, arteriosclerosis and anemia.

7. Emotional and psychological disorders, including depression and anxiety.

8. Addictions, such as alcohol, nicotine and drugs.

9. Eye, ear, nose and throat disorders.

10. And as a supportive therapy for other chronic and painful debilitating disorders.

In addition, some methodologies of medical treatment can be used together to produce a better result, see Table 1.1. These figures show comparative observation of the treatment in herpes zoster of Acupuncture combined with the application of Chinese Herbs in China and indicates that the treatment of acupuncture, when used in conjunction with herbs, has 100% curable rate and is therefore perfectly effective.

Table 1.1 The Comparison of Curative Result for The Treatment of Herpes Zoster Among Three Groups

Groups	Cases	Markedly Effective	Ameliorated	Ineffective	*Total Effective Rate
Acupuncture	32	18 (56%)	12 (38%)	2 (6%)	94%
Chinese herbs	40	25 (62%)	13 (33%)	2 (5%)	95%
Acupuncture + Chinese herbs	48	38 (79%)	10 (21%)	0 (0%)	100%

Source: TCM Shanghai Journal of Acupuncture and Moxibustion, 2001, p. 54.

Total Effective Rate (%) = (Markedly Effective + Ameliorated) / Cases

The Acupuncture Treatment depends on not only symptoms but also the patients' demographic characteristics, such as age and gender. Many factors may profoundly determine the quality of Acupuncture Treatment, such as the expectations of the patient, the compatibility of the backgrounds, the belief of the patient, as well as the remedial environment. This means the result of Acupuncture Treatment is varied in each patient.

Chinese Acupuncture Treatment had been found for 4,700 years since Shen Nung, the father of Chinese medicine, had documented theories about circulation, pulse, and the heart over 4,000 years before European medicine which had any concept about them. Chinese Acupuncture Treatment is important component procedures in traditional Chinese medicine, which prevent and treat diseases by puncturing certain points on the body with needles. Because of their remarkable efficacy and simple equipment, they have been widely popular in China and elsewhere for thousands of years (http://www.nccam.nih.gov, June 26 2005).

1.1.2 Introduction of Shanghai First People's Hospital

Shanghai First People's Hospital, originally known as Gong Ji Hospital, was founded in 1864. With a glorious history of 135 years and being a clinical teaching hospital of Fu Dan University, it ranks as a leading comprehensive municipal hospital that integrates clinical performance, medicine, teaching, scientific research and prophylaxis into an organic whole. In 1992, it reached the standards of "Grade A of Tertiary Hospital". The hospital has won the honourable titles of National Advanced Collective for Public Health Sectors for several times running and of Shanghai Municipal Civilized Unit for seven times. In 1999, the hospital was elected one of the "National One-Hundred Excellent Hospitals".

Among the 2200 member staff, over 600 are doctors, 250 of them hold senior professional titles, 11 hold Post-Doctor's Degree, 50 hold Doctor's Degree and 65 hold Master's Degree. Recently, the hospital has developed fantastically with the competing of modernized buildings. A group of buildings was constructed and put into use, such as Ward building, International Medical Care Center, Clinic and Emergency building, and Medical Technique building. Many updated and

sophisticated equipment for diagnosis, monitoring or emergency care were imported, such as 1.5T MRI, DSA, High-speed-spiral CT, Linear Accelerator, ECT, Color Ultra sonography, Co60, Digital Gastrointestinal Series, Transmyocardial Revascularization by CO2 Laser, and Flowcytometer.

There are many prestigious and well-known experts in the hospital. The founders of some famous departments include Li Wen-zhao, Ren Ting-gui, Lin Yuan-Ying, Zhao Dong-sheng, Xie Tong, Hu Yuan-feng, Zhang Jing-ren, Cai Xiao-sun. At present, some departments are in the leading positions in the country, such as Ophthalmology, Cardiovascular Surgery, Anesthesiology, Urology. The department of Traditional Chinese medicine is the municipal key unit of Shanghai Health Bureau. The Shanghai Ophthalmology Institute and Shanghai Anesthesiology Quality-Control Center are set up in the hospital. Besides, some other departments also have competitive positions in Shanghai, which are the Department of Cardiology, Gastroenterology, Hematology, Radiology, Nephrology and Molecular biology.

Since 1994, the hospital has imported many talents abroad and at home. Up to now, 130 highly qualified personnel with Master Degree or above have been invited here and half of them with doctoral degree on medical area. Some experts famous at home and abroad are Xiao Ming-di, Tang xiao-da, Miao Jing-tao, etc. And also some young experts have shown their brilliant talents, they are Peng Zhi-hai, Huang Qian, Wang Cun, Wang Xing-peng, etc. All of them have made the medicine, teaching and scientific research leap onto a new level.

Recently, the hospital has made great achievement in scientific research. In 1998, quite a number of research projects were conducted in the hospital, including the research projects under the auspices of the State Natural Science Fund, the Shanghai municipal government or the Ministry of Public Health. There are also great achievements in the medical teaching, up to now there are 4 Post-Doctor's Stations, 6 Doctoral Degree sections, and 16 Master Degree sections.

In 1999, on the turning point of the new century, the hospital celebrated the 135th anniversary of its founding and they made up their mind to make great

achievements in the new century with the spirits of reforming, talents import, science, teaching and civilization (http://www.firsthospital.cn/hospital/yyjj.asp, June 06 2005).

1.13 Introduction of Acupuncture Department at Shanghai First People's Hospital

Among Shanghai City's public hospitals, Acupuncture Department of Shanghai First People's Hospital was established the earliest. In 1956 Huang Xian Ming, Si Tu Han Sun founded the department, with Huang Xian Ming as the first chief director of the Acupuncture Department. In the 1960s, under the leadership of director Huang Xian Ming, the Acupuncture Department was able to cooperate with the five sense organs and Anesthesia Departments, completing the world's first operation where acupuncture was used as anesthesia, starting a new era for operations that utilize acupuncture. Afterwards, Acupuncture Department and the Anesthesia Department along with related medical operation classes launched a large scale of acupuncture operations, earning substantial results. Since the Acupuncture Department was founded, it has prevented coronary heart disease, diseases brought on by drug anesthetic, infantile paralysis, asthma, insomnia, dysmenorrhea, and infantile diarrhea in clinical studies making an outstanding contribution. This department's 50 years of history, the leadership of the following directors: Huang Xian Ming, Si Tu Han Sun, Wang Ji Hua and Yan Jun Bai made this department what it is today.

Currently the Acupuncture Department has 9 people: 1 director physician, 4 assistant director physicians and 4 physicians. The current director Zhang Zai Yi is the chief member of the Shanghai City Acupuncture Clinic Committee.

The main clientele of the acupuncture department's clinic are people with arthritis, and people with neck, shoulder and leg pain. The clinic's working days are from Monday through Saturday, six days a week. Other than the regular practice, they have also established a special clinic for treating obesity, breast disease, asthma, insomnia, chronic and allergic sinitus and pelvic inflammation.

Special clinic for obesity and breast disease are newly established treatment categories this year for Shanghai First People's Hospital's Acupuncture Department. The treatment for obesity is needling, electric pulse stimulation, moxibustion

combined with ear pressure points, while other treatments have achieved weight loss. The significant feature of this treatment is that cellulous reduces at an even, steady pace, without any of the side effects of the drugs. This treatment is clearly welcomed by people who have adiposity. Since the obesity clinic started, it has already had thousands of patients who have received benefits, for example, losing $0.5 - 1$ Kg per week, and since it reduces fat and consequently a person's weight, the treatment in turn can reduce the syndrome. One cycle of the treatment consists of 15 treatment episodes for a time period of 30 days, and can reduce the patients' weight by $4 - 12$ Kg. Many patients' syndrome liver cellulous, high blood pressure showed significant improvement, and a portion of these patients returned to a normal condition. Acupuncture clinic specialized for breast disease utilizes the principles of unclogging the "Qi" channels and blood. With the techniques of needling and pressure point sticking for breast growth among other breast conditions, satisfactory results are produced.

Asthma is the disease that acupuncture has been treating since the last generation. Based on the experience gained from the ancients, after several decades of clinical experience along with advancements and pressure points application as the main capitol of this prevention and treatment method, up to now, this method has cured many patients' breathing problems such as short breath and coughing. The special characteristic of the treatment of asthma by the Acupuncture Department is that patients must continue to take medicine. In addition, the intrinsic penetrative nature of the medicine used that ensures beneficial effects.

For chronic and allergy related sinitus, moxibustion is used as the main form of treatment to reduce or eliminate toxin from the immune system, raise ability to ward off disease, reduce allergic reactions and achieve the treatments' goal.

Pelvic and ovary tumor treatment special drugs are applied to the sacrum with the use of hydropathic massage, accompanied by needling. The reduction of pain brought on by the sickness and reduction of leg size are highly visible.

Besides the above sicknesses that the Acupuncture Treatment is especially adept in treating, some other special treatments offered by the Acupuncture

Department are for is arthritis, chronic prostatitis and prostate hyperplasia, etc., (http://www.firsthospital.cn/hospital, June 06 2005).

The Shanghai First People's Hospital, with a glorious history of 135 years in Acupuncture Treatment, it is necessary for the hospital to improve the service quality in Acupuncture Treatment to bridge the gap between patients' expectation and perception toward Acupuncture Treatment.

1.1.4 Patients' Statistics of Acupuncture Department at Shanghai First People's Hospital

Table 1.2 The Comparison and Ratio of Doctors and Out-Patients in Acupuncture Department and Chinese Medicine Department at Shanghai First People's Hospital in May 2005.

Number of Doctors in Hospital	Number of Doctors in Acupuncture Department	Number of Out-Patients in Acupuncture Department	The Ratio of Doctor and Patient in Acupuncture Department
605	9	8688	1:965

Number of Doctors in Hospital	Number of Doctors in Chinese Medicine Department	Number of Out-Patients in Chinese Medicine Department	The Ratio of Doctor and Patient in Chinese Medicine Department
605	11	6820	1:620

Source: The Statistic Department of Shanghai First People's Hospital, 2005.

Table 1.3 Number of Out-Patients in Acupuncture Department at Shanghai First People's Hospital from January to May 2005.
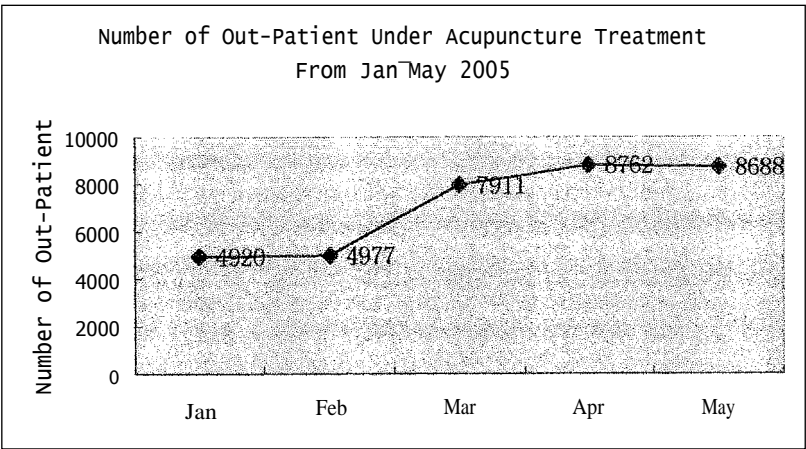
Source: The Statistic Department of Shanghai First People's Hospital, 2005.

Table 1.4 The Comparison of Average Number of Out-Patients per Day in Acupuncture Department and Chinese Medicine Department at Shanghai First People's Hospital from 2000 to 2004.
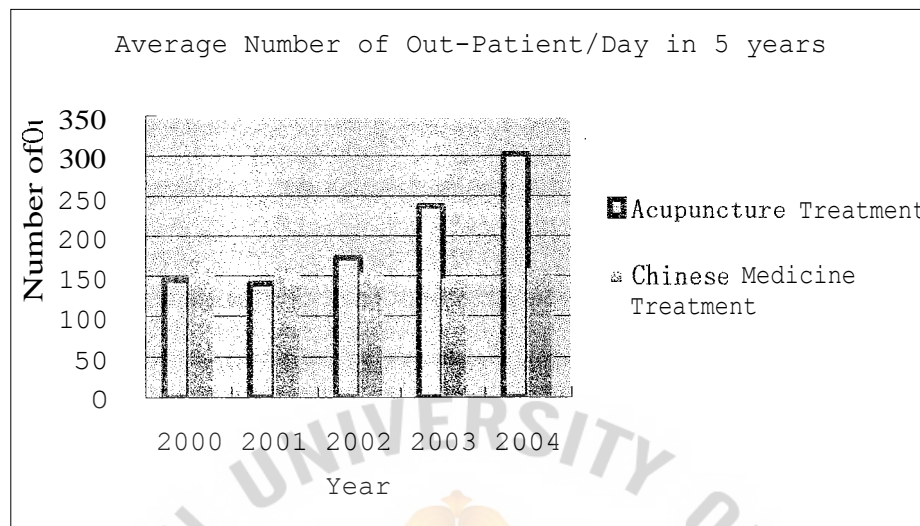
Source: The Statistic Department of Shanghai First People's Hospital, 2005.

1.2 Statement of the Problems

It is more important for the Shanghai First People's Hospital, as one of public organizations in medical treatment to improve the patients' satisfaction with medical service quality of Acupuncture Treatment. It is necessary for Shanghai First People's Hospital to improve the patient's satisfaction with the overall service experience. The statements of the problems in this study are:

1. Is there any difference between patients' expectations and patients' perceptions of medical service quality offered by Acupuncture Department at Shanghai First People's Hospital in terms of Tangibility, Reliability, Responsiveness, Assurance and Empathy?

2. Is there any difference between patients' expectations and patients' perceptions of medical service quality offered by Acupuncture Department at Shanghai First People's Hospital classified by the demographic factors Age, Gender, Education Level, Occupation and Monthly Income?

1.3 Research Objectives

The purpose of this study is to measure patients' perceived medical service quality offered under Acupuncture Treatment at Shanghai First People's Hospital by using SERVQUAL model. Hence, the objectives of this research are:

1. To measure the difference between patients' expectations and patients' perceptions of medical service offered by Acupuncture Department at Shanghai First People's Hospital in terms of Tangibility, Reliability, Responsiveness, Assurance, and Empathy.

2. To measure the difference between patients' expectations and patients' perceptions of medical service offered by Acupuncture Department at Shanghai First People's Hospital in terms of demographic factors by Age, Gender, Education Level, Occupation and Monthly Income.

1.4 Scope of the Research

The difference of medical service quality between patients' expectations and perceptions of the Acupuncture Treatment at Shanghai First People's Hospital is considered in this research.

In this study, the researcher focuses only the patient's expectations and perceptions of medical service quality of the Acupuncture Treatment at Shanghai First People's Hospital, which is located at 85 Wujin Rd. Hongkou District, Shanghai City, the People's Republic of China.

This research is conducted to find out the patients' expectations and perceptions of medical service quality offered by Acupuncture Department at Shanghai First People's Hospital. Therefore, only the current patients who are currently being treated with Acupuncture Treatment are focused as the respondents of the research. The researcher set the questionnaire on June 2005, plan to distribute 30 sets of questionnaire for pilot study at the first week of July 2005. When the researcher gives

the questionnaires at the front of Acupuncture Department, the respondents will be asked, "Are you a patient of this acupuncture department?" If they are answer, "Yes, I am." The researcher will continue it; otherwise, research will be stopped.

1.5 Limitations of the Research

The limitations of the research should take caution when generalize the result across the respondents of entire research. There are as following:

1. This research measures the perceived medical service quality of the Acupuncture Treatment at Shanghai First People's Hospity, so the findings of this research should not be generalized for the overall industry in a different hospital and a different department.

2. Time **and** cost constraints do not allow extensive data collection, so patients of other times will be excluded.

3. The number of patients who received Acupuncture Treatment at Shanghai First People's Hospital for a particular time is limited.

1.6 Significance of the Study

The research explores the perceived medical service quality of the Acupuncture Treatment at Shanghai First People's Hospital by examining the expectations and perceptions of patients by SERVQUAL model on 5 key dimensions, including Tangibility, Reliability, Responsiveness, Assurance, and Empathy. Moreover, the relationship of patients' expectations and perceptions of medical service quality offered by Acupuncture Department and their demographic factors are also been considered.

The outcome of this study will be a source for marketing of Shanghai First People's Hospital or for other public hospitals or clinics to use in studying the patients' perceived medical service quality by Acupuncture Treatment to improve their medical service quality. The marketing managers can understand what patients

really expect and what they actually receive in order to enhance the quality of their medical services. Because this research measures perceived medical service quality of Acupuncture Treatment on five dimensions, the marketing managers understand the components and break down the quality into bits, which they can better analyze. The marketing managers can also understand their patients in depth in each segment via their demographic factors.

Thus, this research measures the quality of medical service of the Acupuncture Treatment at Shanghai First People's Hospital. Moreover, it provides the medical service managers and other practitioners a better understanding on the overall picture of medical service quality delivery and also their patients' expectation and perception. Finally, this study serves as a guideline and direction for medical service managers to monitor and develop medical services with the purpose of fulfilling patients' satisfaction.

In addition, this research enables entrepreneurs to have a better understanding of what the acupuncture patients need and want most when they use the Acupuncture Treatment as their alternative treatment, and possibly to start one's own business. This research could be a source for other researchers to conduct comparative study on other medical treatments. It is also a source of knowledge for those who want to have a better understanding of the Acupuncture Treatment. And it will be beneficial to the Shanghai City Acupuncture Clinic Committee so that they will have a better understanding of this treatment and their patients so as to set up other guidelines.

1.7 Definition of Terms

Acupuncture is a healing method in which needles are inserted and heat or electrical stimulation is applied at very precise acupuncture points (Sun and Sheng, 1998).

Assurance is the competence of the system and its security, credibility and courtesy (Parasuraman et al., 1988).

Competence is the possession of the required skills and knowledge to perform the service (Parasuraman et al., 1990).

Communication is keeping customers informed in the language they can understand and listen to them (Parasuraman et al., 1990).

Consumer expectation is pretrial beliefs consumer has about the performance of a service used as the standard or reference against which service performance is judged (Clow, et al., 1991).

Consumer perception is the process by which an individual selects, organizes, interprets and inputs information to create a meaningful picture of the world (Morrison, 1996).

Empathy is the ease of access, approachability and effort taken to understand customers' requirements (Parasuraman et al., 1988).

Expectation is pretrial beliefs consumer has about the performance of a service that are used as the standard or reference against which service performance is judged (Clow, et al., 1991).

Perception of service quality is viewed as the degree and prediction of discrepancy between customer's perceptions and desire (Parasuraman, et al., 1988).

Quality is a means of pleasing customer, not just protecting annoyances as well as to measure quality by counting the incidence of "internal" and "external" failures (Gronroos, 1982).

Reliability is the ability to perform the promised service dependably and accurately (Parasuraman et al., 1988).

Responsiveness is willingness to help customers and provide prompt service (Parasuraman et al., 1990).

Satisfaction is a person's feeling of pleasure or disappointment resulting from comparing products or services perceived performance in relation to its expectations (Kotler, 2000).

Service is an activity of a serried of activities, which provides consumer satisfaction (Lehtinen, 1982).

Service quality is a measure of how well the service level delivered matches customer expectations. Delivery quality service means conforming to customers' expectations on a consistent basis (Lewis and Booms, 1983).

SERVQUAL is a multiple-item scale for measuring consumer perceptions. the scale was based on a concept of 'perceived' quality (Parasuraman et al., 1988).

Tangibility is the appearance of physical facilities, personnel, equipment, and communication materials (Parasuraman et al., 1990).

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CHAPTER 2
REVIEW OF RELATED LITERATURE AND STUDIES

The second chapter discusses the definitions and characteristics of service, service quality, customer's expectation and customer's perception, theories and models related to service quality, measuring service quality, customer satisfaction and demographic characteristics are collected from the point of view of different authors to support the theoretical framework. It discusses the literatures that are directly and indirectly related to this research.

2.1 Definitions and Characteristics of Service

2.1.1 Definitions of Service

A service is an activity of a serried of activities which provides consumer satisfaction (Lehtinen, 1982). Based on Gronroos (1990), services are any intangible benefits, which are paid for directly or indirectly, and which often include a larger or smaller physical or technical component. Also, service is an activity or series of activities of more or less intangibles nature that normally, but not necessarily, takes place in interactions between the customer and service employees and/or physical resources of goods and/or systems of the service provider, which are provided as solutions to customers problems.

In a service business the perceived value of the offering is determined more by the service provided than the product offered. The service sector includes many industries such as the hospitality industry, the tourism industry, financial service, health care, and charities. Managers in service business that provides entirely intangible offerings, such as legal services, health care etc, and businesses that offer both services and products such as restaurants pose different challenges due to the nature and scope of service (Fitzsimmons, 1994).

Specially, Breyer (1987) defined three service dimensions of the hospital production as follows:

1. Medical services are defined in terms of the number of cases or patients treated.

2. Hotel services are defined as the number of beds provided.

3. Demand services are the number of beds staffed by the hospital.

In the point of view of management in medical companies, Chalermrattana (1996) defined service by the initial letters of the word "SERVICE" as follows:

1. **Smile:** Staffs in hospital will actively greet patient with SMILE, SYMPATHY and SPEAK clearly in a friendly manner.

2. Eye: Staffs in hospital will make EYE contact, even in passing, with an acknowledgment.

3. **Recognition:** Staffs in hospital will create a sense of RECOGNITION by calling the patients by their names, in a natural and discrete manner.

4. **Voice:** Staff in hospital will speak to patients in an attentive, natural and courteous manner, avoiding pretension.

5. **Informed:** All patients will be well INFORMED about their hospitals and their medicine.

6. **Clean:** Staff in hospital will always appear CLEAN, CRISP, well groomed and well fitted.

7. **Everyone:** EVERYONE, EVERYWHERE: staff show their care to every patient wherever they are.

2.1.2 Characteristics of Service

There are four characteristics of services (Kotler et al., 1996) which are as follows:

1. **Intangibility:** services cannot be seen, tested, felt, heard, or smelled before they are purchased. To reduce uncertainty caused by intangibility, buyers look for tangible evidences that will provide information and confidence about the service.

In hospital, doctors, nurses and all the staff in hospital provide the services to patients, such as injection, operation, and intensive care.

2. **Inseparability:** customer-contact employees are part of the product. The implication of inseparability is that customers and employees must understand the service delivery system. As for the service in hospital, both the service provider and the patients must be present for the transaction to make, such as the acupuncturist must have both professional skill and necessary equipment for the operation.

   Variability: service quality depends on who provides them, when and where they are provided; moreover services are produced and consumed simultaneously. As for the service in hospital, the product variability exists in the contact between the service provider and the patients on the same service provider's skills and performance at different times or on the different service provider's skills and performance at different time.

4. **Perishability:** service cannot be stored, for example, if service providers are to maximize revenue, they must manage capacity and demand since they cannot carry forward unsold inventory. As for the example of service in hospital, the perishability exists in service provider's skill and care for patients.

2.1.3 The Components of Service

The components of service can be broken down into four main components. They are physical products, service product, service environment, and service delivery (Rust et al., 1996).

1. **Physical product** is whatever service that can be touched, seen, and felt, such as the improved health the organization transfers to the customer. It is tangible and physically real. As with the rest of service offering, product design must be customer-oriented for ensuring that product design matches customer needs.

2. **Service product** is the core performance purchased by the customer, and the flow of events designed to provide a desired outcome. It refers to that part of the experience apart from the transfer of physical goods and typically includes

interactions with the firm's personnel, such as the nurse's care in hospital and interpersonal attention.

3. **Service environment** is the physical backdrop that surrounds the service, sometimes referred to as a "service cape", such as the hospital's environment. The service environment may result in either customers' dissatisfaction or delight and it can also signal the intended market segment and position of the organization as well.

4. **Service delivery** refers to what actually happens when customers buy the service.

2.2 Customer's Expectation and Customer's Perception

Parasuraman, et al. (1988) pointed out that perception of service quality is viewed as the degree and prediction of discrepancy between customer's perceptions and desire. Perception of service quality has been defined as the difference between expectations and performance of service (Gronroos, 1982).

Perception is customers' beliefs concerning the service received and experienced. People differ in their perception of reality depending on their own experiences, life histories, and personal situation (Parasuraman, et al., 1985).

Clow, et al., (1991) stated that consumer expectation is pretrial beliefs consumer has about the performance of a service that are used as the standard or reference against which service performance is judged.

Morrison (1996) defined the perception as the process by which an individual selects, organizes, interprets and inputs information to create a meaningful picture of the world. The perceptual process lets people have different views of the world: perceptual screens or filters, perceptual biases, selective retention, and perceptual process or closure.

2.3 Service Quality

According to Lewis and Booms (1983), service quality is a measure of how well the service level delivered matches customer expectations. Delivery quality service means conforming to customers' expectations on a consistent basis.

Parasuraman, Zeithaml, and Berry (1985) defined "service quality as more difficult for the consumer to evaluate than goods quality." Service quality perceptions result from a comparison of consumer expectation with actual service performance. Quality evaluation is not made solely on the outcome of a service; they also involve evaluation of the process of service delivery.

In order to ensure customer satisfaction, it is important for any service to either meet or exceed customer expectation. Since many customers have different expectations based on prior experiences and their present needs, this is difficult to quantify. Gronroos (1990) developed some "Laws of Service", one of which suggests that the perception from a service encounter should equal or exceed the expectations. The implied formulation of this is:

" Service Quality = Perceptions - Expectations "

Thus, if perceptions are lower than expectations for any given service encounter, satisfaction is negative, or in other words the customer is dissatisfied. Parasuraman et al., (1985) expanded the definition service quality to include five aspects of quality: tangibility, reliability, responsiveness, assurance, and empathy. Defining these various aspects can help focus on the particular area that has a problem.

Also, service quality is defined as "an inference about the superiority of a product or service based on rational assessment of characteristics or attributes, or an affective judgment, an emotional response similar to an attitude." (Parasuraman et al., 1985).

Service quality, in terms of the satisfaction degree expected by the requestor, can be defined as a measure of how well the service delivered matches the customer expectation of the service (Lewis, 1989).

Quality of a particular products or services is whatever the customer perceives it to be. Services are more or less intangibly experienced series of processes, where the customer often actively participates in the production process, are bound to be perceived as extremely complex. What is needed is a model of service quality that is a model of how the quality of services is perceived by customers (Gronroos, 1990).

Service quality, which in the retail world equates to customer service and satisfaction, is central to the success of the retail selling both tangible and intangible products. High quality service is defined as delivering service which meets or exceeds customers' expectation. In this definition there is no absolute quality service, but only service that is perceived as high quality because it meets and exceeds the expectations of customers (Donnelly et al., 1995).

In a service business, quality depends on the customer's experience with delivery. The quality to be focused is perceived quality. The objective of any service company is to deliver what customers perceive to be quality service. Expectations are important because quality is a judgment against some standard and expectations are the internal standard against which customers judge the quality of service they receive (Schneider and Bowen, 1995).

2.4 The Theories and Models Related to Service Quality

2.4.1 Introduction of SERVQUAL

The SERVQUAL method from Parasuraman, Zeithaml, and Berry is a technique that can be used for performing a gap analysis of an organization's service quality performance against customer service quality needs.

SERVQUAL is an empirically derived method that may be used by a service-based organization to improve service quality. The method involves developing an understanding of target customers' perceived service needs and measuring their perceptions of service quality for the organization in question against one that may be described as "excellent". The resulting gap analysis may then be used

as a driver for service quality improvement.

SERVQUAL takes into account customers' perceptions of relative importance of service attributes, allowing an organization to prioritize and to direct resources and improving the most critical.

Data is collected via surveys in which respondents (customers) are asked to respond to a series of questions based on a number of key service dimensions.

Ten original dimensions of Parasuraman et al., the criteria used by customers in judging service quality include service quality.

1. **Tangibility** - appearance of physical facilities, personnel, equipment, and communication materials.
2. **Reliability** - ability to perform the promised service dependably and accurately.
3. **Responsiveness** - willingness to help customers and provide prompt service.
4. **Competence** - possession of the required skills and knowledge to perform the service.
5. **Courtesy** - politeness, respect, consideration, and friendliness of contact personnel.
6. **Credibility** - trustworthiness, believability, honesty of the service provider.
7. **Security** - freedom from danger, risk, or doubt.
8. **Access** - approachability and ease of contact.
9. **Communication** - keeping customers informed in the language they can understand and listen to them.
10. **Understanding the Customer** - making the effort to know customers and their needs.

The set of original ten dimensions of service quality is exhaustive and appropriate for assessing quality in a broad variety of service, such as for assessing quality in hospital's service.

After the ten key dimensions, SERVQUAL model was developed, which had only five distinct dimensions they are:

1. **Tangibility** - appearance of physical facilities, equipment, personnel, and communication materials.

2. **Reliability -** ability to perform the promised service dependably and accurately.

3. **Responsiveness -** willingness to help customers and provide prompt service.

4. **Assurance** - knowledge and courtesy of employees and their ability to convey trust and confidence.

5. **Empathy -** care, individualized attention the firm provides its customers.

The five distinct dimensions captured facts of all of the ten original dimensions. The better understanding of the relationship between these five dimensions and ten dimensions are shown in Figure 2.1, which also help the researcher finally determine to use the five dimensions in the conceptual framework.

Figure 2.1: Correspondence Between SERVQUAL Dimensions and Original Dimensions for Evaluating Service Quality.

<u>**Ten Dimensions**</u>   <u>**Five Dimensions**</u>

Tangibility   Tangibility

Reliability   ———   Reliability

Responsiveness   ———   Responsiveness

Competence
Courtesy
Credibility   Assurance
Security

Access
Communication   Empathy
Understanding Customer

Source: Zeithaml, Parasuraman and Berry, Delivering Quality Service: Balancing Customer Perceptions and Expectations, 1990

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Origin of SERVQUAL is from the author's involvement in a qualitative study from which they concluded that customers ranked the importance of two SERVQUAL dimensions consistently, regardless of service industry. Reliability is the most important contributor to service quality and tangibility is the least important.

SERVQUAL is widely used within service industries to understand the perceptions of target customers of their service needs and to provide a measure of the service quality of the organization and may also be applied internally to understand employees' perceptions of service quality with the objective of achieving service improvement.

The method of SERVQUAL essentially involves conducting a survey of sample customers to understand customers perceived service needs and to measure their perceptions of service quality for the organization in question.

Customers are asked to respond to numerous questions within each dimension that determines the relative importance of each attribute, a measure of performance expectations that would relate to an "excellent" company and a measure of performance for the company in question. This enables the gap to be assessed between desired and actual performance together with a ranking of the importance of service criteria that may assist an organization in directing its resources so as to maximize service quality whilst controlling costs.

Strengths of SERVQUAL are the users agree most that a comprehensive and thorough examination of service needs and service quality provides an invaluable approach to improving service quality. SERVQUAL provides detailed information on:

♦ Customer perceptions of the service (a benchmark established by your own customers).
♦ Performance levels as perceived by customers.
♦ Customer comments and suggestions.
♦ Impressions from employees with respect to customers' expectations and satisfaction.

2.4.2 Customer Assessment of Service Quality

Parasuraman, Zeithaml and Berry have developed the SERVQUAL Model in 1998. To develop this model, the researchers operate both qualitative such as group interview and also quantitative such as questionnaire. However, its major design is quantitative research by questionnaire. This model is intended to be use for analyzing sources of quality problems and for helping managers understand how service quality can be improved.

Figure 2.2: Customer Assessment of Service Quality
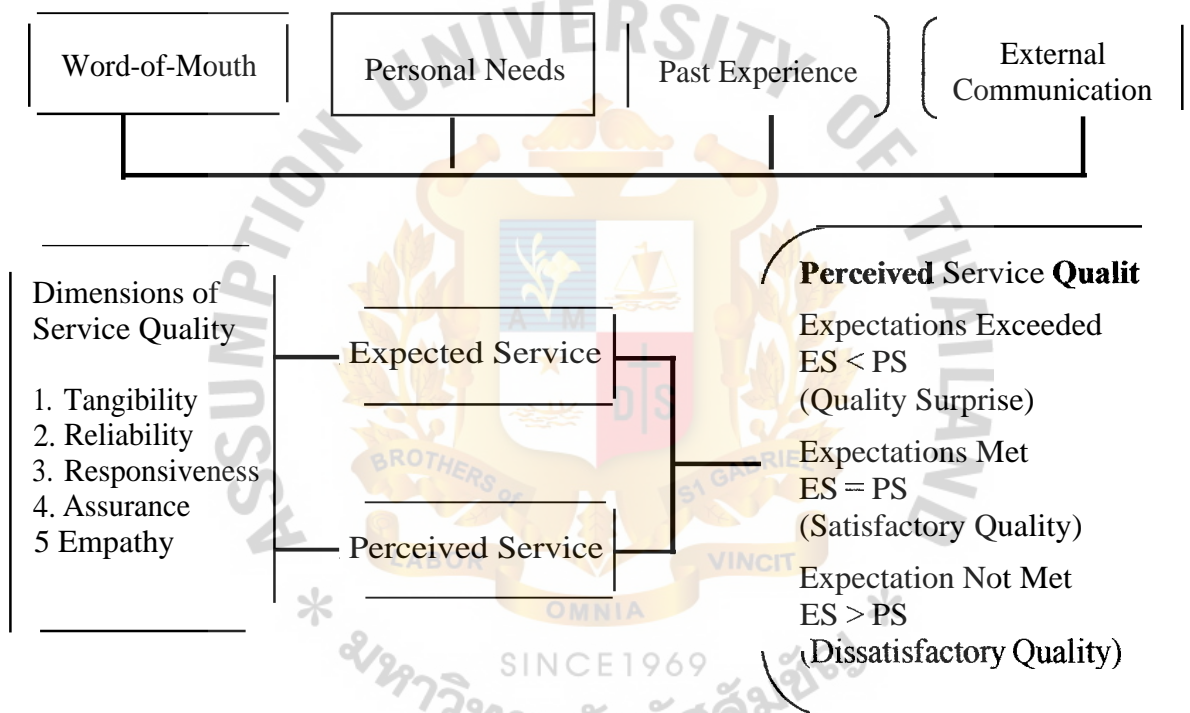
Source: Parasuraman, Zeithaml, and Berry, 1985: "A Conceptual Model of Service Quality and its Implications for Future Research, Journal Of Marketing, Vol.49, Fall 1985, p.48

As the quality is measured by the differences shown in Figure 2.2 between the expected service and the perceived service, the total service quality (Perceived Service Quality) judgment can be computed according to the following formula:

" Perception - Expectation = Perceived Service Quality "

This formula implies the following service quality in question:

1. When customers' expectations are lower than perceptions of service quality, the outcome is quality surprise (ES < PS),

2. When customers' expectations are equal to perceptions of service quality, the outcome is satisfaction quality (ES = PS), and

   When customers' expectations are higher than perceptions of service quality, the outcome is dissatisfaction quality (ES > PS).

The SERVQUAL Model recasts five specific components: tangibility, reliability, responsiveness, assurance, and empathy. The basis for identifying these five components is based on what customer's expectations focus on:

1 **Tangibility** is the appearance of the physical facilities and materials related to the service. They are related to the appeal of facilities, equipment and material used by a service firm as well as the appearance of service employees.

In this research, tangibility area is related to Acupuncture Department's facilities and medical staffs. It includes 4 attributes:

1.1 Up-to-date equipment and technology

1.2 Physical facilities visually appealing, clean and no pollution

1.3 Logical spatial arrangement of clinic, equipped with good air-circulation & lighting

1.4 Medical staffs well dressed and appear neat with elegant manner

2 **Reliability** is the ability to perform the service accurately and dependably. It involves with accurate service without any mistakes and delivers what it has promised to do at the time that has been agreed upon.

In this research, reliability area is related to Acupuncture Department's medical staffs' ability to provide good service. It includes 5 attributes:

2.1 Medical staffs provide logical check-up and logical treat

2.2 When patients have problems, medical staffs must be sympathetic to help

2.3 Medical staffs provide reliable and trustworthy medical service

   2.4   Medical staffs provide their medical services by appointment, go their rounds on time

   2.5   Make medical records accurately to keep patients' records

Responsiveness concerns the willingness of employees to help customers and respond to their request as well as to inform customers when service will be provided, and then give prompt service.

In this research, responsiveness area is related to Acupuncture Department's medical staffs' willingness to work. It includes 4 attributes:

   3.1   Provide medical services on time

   3.2   Provide medical services for emergency patients in time

   3.3   Medical staffs must always be willing to help patients

   3.4   Medical staffs are unable to respond patients' request promptly as they are busy

4 Assurance is the competence of the system and its security, credibility and courtesy. It is related to employees' behavior to give customers confidence in the firm.

In this research, assurance area is related to Acupuncture Department's medical staffs' knowledge & attitude. It includes 5 attributes:

   4.1   This acupuncture department and its medical staffs are trustworthy

   4.2   Patients receive medical treatment here safely

   4.3   Medical staffs are attentive in protecting patients' privacy

   4.4   Distingue medical ethics & manner, good service attitude

   4.5   Medical staffs with abundant medical knowledge

5   **Empathy** is the ease of access, approachability and effort taken to understand customers' requirements. It involves understanding customer's problems and performs in their best interests as well as giving customers individual personal attention and having convenient operating hours.

In this research, empathy area is related to Acupuncture Department's medical staffs that are easy to approach, unassuming, and know patients' needs. It includes 4 attributes:

5.1   Individual medical service for individuals

5.2   Understand patients' needs

5.3   Convenient consultation hours arranged to satisfy different patients' needs

5.4   Flexible arrangements for each department to reduce the time of the patient run from one departments to another

SERVQUAL is operationalized as "Perceived Service Quality = Perceived Service - Expected Service" framework. That is, the perception of service quality increases as perceived service increasingly exceeds the expected service. If expected service exceeds perceived service, perception of service quality is poor. If perceive service meets expected service, perception of service quality is satisfying.

2.5 Measuring Service Quality

Quality measurement is probably the most important technique for a service aiming for more than superficial improvement. To work systematically and to find out the cause of problem in service, manager and staff have to use quality measurement. Really to know the effect of change over time, managers need measures to compare the quality performance of the service.

Several tools were proposed by many authors to measure service quality. However, they have been hot issues and debates going on since SERVQUAL, Parasuraman, Zeithaml, and Berry in 1998 proposed the first and most popular service quality measurement tool. SERVQUAL measures services quality by calculating the difference between what the customers expect and what the customers perceive.

In this study, the SERVQUAL technique is applied to measure the patients' expectation and perception of the medical service quality of the Acupuncture Treatment offered by Shanghai First People's Hospital because it has been adapted to measure the service quality in many industries such as a hospital, a profession service

firm, a dental school patient clinic, banks, dry cleaning and fast food establishments. And the SERVQUAL technique offers a ready-made instrument (questionnaire) to measure the service quality which can help the firm to save both time and money.

This method is based on the following five dimensions: tangibility, reliability, responsiveness, assurance and empathy. There are two parts in the measuring process:

1. The first step is to measure the patients' expectation of an ideal medical service under acupuncture treatment at Shanghai First People's Hospital.

2. The second step is to measure the patients' actual perception of the medical service reality under acupuncture treatment at Shanghai First People's Hospital.

And the measuring procedure requires the patients to respond to 22 statements based on five quality dimensions. The five dimensions that Parasuraman, Zeithaml, and Berry present for customers to evaluate a service (Rust et al., 1996) are:

1. Tangibility: The appearance of physical facilities, equipment, personnel, and communication materials.

2. Reliability: The ability to perform the promised service dependably and accurately.

3. Responsiveness: The willingness to help customers and provide prompt service.

4. Assurance: The knowledge and courtesy of employees and their ability to convey trust and confidence.

5. Empathy: The caring individualized attention the firm provides to its customers.

In this study, the patient is asked to rate his/her expectation and perception of the medical service performance on a 9-point Likert scale ranging from 1 to 9. The value of the scale is from strongly disagree to strongly agree in the part of expectation and perception.

Though 5-point Likert scale is applicable, 9-point Likert scale yields more accurate results. The gap between expectation and perception is measured by the different two scales (perception minus expectation). Positive scores show that the

performance is better than what the patient expects, while negative scores show that the medical services are of poor quality.

2.6 Definitions of Selected Demographic Characteristics

Demographic characteristics, including age, gender, education level, occupation and income are significant elements in influencing a buyer's decision (Kotler, 2000). This information can be used in dividing segmentations and determining the target market. Personal factors are uncontrollable. Changes can occur at anytime without predictions. And this may affect the expected service quality and perception of service quality that are measured in this research.

Age

"National populations vary in their age mix. A population can be subdivided into six groups: preschool, school-aged children, teens, young adults aged 25 to 40, middle-aged adults aged 40 to 65, and older adults aged 65 and up." (Kotler, 2000). In running a business, we have to consider about major shifts in some age groups. People will have different opinion and behavior when they go through a lot of experiences in their life. From this research it is found out those patients of different age need different kinds of treatment depending on their severity of illness at different stage.

Gender

Gender difference may exist for some products and in some situations for certain goods and services, whereby male and female think differently (Kotler, 2000). According to the research findings, the number of female patients is greater than that of male patients. However, as there is a greater population of female than male in Shanghai, whether the result justifies the claim that female pays more attention to their health is still disputable.

Educational Level

Educational level is correlated with both occupation and income. "The population in any society falls into five educational groups: illiterates, high school dropouts, high school certificates, and professional degrees". People with different

education backgrounds tend to have different attitudes and behaviors (Kotler, 2000), so educated people seem to have more demand for health treatment and for service quality.

Occupation

Occupation also influences a person's consumption pattern (Kotler, 2000). For example, a blue-collar worker will buy work clothes, work shoes, whereas other occupational groups such as engineers, lawyers, and physicians have more interests in luxury, and high value added products. Due to different working environment, people suffer different kinds of illnesses. As a result, it appears that occupation should also influence in the determination of whether an individual should use acupuncture.

Income

The level of income does influence the way an individual spends his or her money, although it does not always predict the best customers for a given product. The consumer's taste, willingness, and commitments to consume a product must also be considered (Kotler, 2000). Based on the above theory, it is believed that the income of individual would have a direct impact on the pricing of the Acupuncture Treatment

2.7 Previous Studies

The SERVQUAL Model is the most widely known and discussed scale for measuring service quality. There are other previous studies related to the SERVQUAL Model. Their research methodologies and findings are also mentioned in the chapter.

Methanukorh (1999) studied the service quality the patients expected from the special clinic of King Chulalongkorn Memorial Hospital. The SERVQUAL survey instrument was applied to measure expected service quality in five dimensions: tangibility, reliability, responsiveness, assurance and empathy. The result of the study showed that the service quality the patients expected in terms of five aspects: tangibility, reliability, responsiveness, assurance, and empathy were high. The

patients who were different in age had significantly different service quality expectations in terms of reliability and responsiveness.

Wolde (2001) studied "Measuring service quality of the Better Business Bureau using the SERVQUAL model". The primary purpose of this study was to examine the application of the SERVQUAL instrument in the measurement of the quality of service provided by Better Business Bureau. Another purpose of this study was to determine the level of consumer awareness regarding the variety of service provided by these Bureaus. A survey examined the respondents' expectation and perception of service quality. The analysis of the difference between their expectation and perception showed that the respondents had a high expectation in all areas of service except tangibility which fell short of the respondents' expectation in reliability, responsiveness, assurance, and empathy.

Hiidenhovi et al., (2002) did research on "Measurement of outpatients' views of service quality in a Finnish university hospital". The purpose of this study was to discover feedback information acquired systematically from patients by applying a service quality instrument to be used as the basis for improving the quality of service in surgical and medical outpatient departments. This study was undertaken in Tampere University Hospital (TAUH), which offers 30 medical specialties and subspecialties. The findings from the current study proved that the SERVQUAL instrument is a good tool enabling systematic access to patient feedback on service quality in Outpatient Department. The instrument allowed the detection of the strengths of the service provided by a large organization and long-term trends from patients' perspective.

Tan and Kek (2004) conducted a study titled "Service quality in higher education using an enhanced SERVQUAL approach". The aim of the study was to present an enhanced approach to use SERVQUAL for measuring student satisfaction. It involves the use of factors concerning student services that are queried and surveyed using the SERVQUAL methodology. The proposed instrument was tested at two local universities. The focus of this research had been on both the acculturated survey as well as the derived methodology. The finding of the study showed the usefulness of

the approach in gathering students' perception, analyzing them and reducing them to a form usable by management as an off-the-shelf service quality measurement tool.

Laosirihongthong et al., (2004) conducted a study on the "The survey of student's perception and expectations on curriculum and educational services by using service quality (SERVQUAL) model". The study explored the degree of perception and expected service quality of students on education services by using SERVQUAL model. Data collected from 244 students who are studying in the 2nd to 4th year in the Faculty of Engineering were analyzed by ANOVA and T-test. The finding of this study could be beneficial to the faculty management team to design and enhance the service quality in education.

Table 2.1: Summary of Previous Studies

Author	Topic	Objectives	Result
Methanukorh (1999)	"The service quality to the patients expected from the special clinic of King Chulalongkorn Memorial Hospital"	Measure expected service quality in terms of five dimensions: tangibility, reliability, responsiveness, assurance and empathy.	The patients' expectations measured in terms of five aspects: tangibility, reliability, responsiveness, assurance, and empathy were high. The patients who were different in age had significant different service quality expectations in terms of reliability and responsiveness.
Wolde (2001)	"Measuring service quality of the Better Business Bureau using the SERVQUAL model"	Examine the application of the SERVQUAL instrument in the measurement of the quality of service provided by Better Business Bureau.	The respondents had a high expectation in all areas of service except tangibility which fell short of the respondents' expectation in reliability, responsiveness, assurance, and empathy.

Hiidenhovi et al., (2002)	"Measurement of outpatients' views of service quality in a Finnish university hospital"	Discover feedback information acquired from patients by applying a service quality instrument to be used as the basis for improving the quality of service.	The SERVQUAL instrument is a good tool enabling systematic access to patient feedback on service quality in Outpatient Department.
Tan and Kek (2004)	"Service quality in higher education using an enhanced SERVQUAL approach"	Present an enhanced approach to use SERVQUAL for measuring student satisfaction.	Showed the usefulness of the approach in gathering students' perception, analyzing them and reducing to a form usable by management as an off-the-shelf service quality measurement tool.
Laosirihongth ong et al., (2004)	"The survey of student's perception and expectations on curriculum and educational services by using service quality (SERVQUAL) model"	Explore the degree of perception and expected service quality of students on education services by using SERVQUAL model.	Be beneficial to the faculty management team to design and enhance the service quality in education.

CHAPTER 3
RESEARCH FRAMEWORK

The third chapter is divided into three parts. First, it discusses theoretical framework and conceptual framework. Second, it presents research hypothesis. Third, it discusses the operationalizations of demographic characteristics on each different group of patients' expectations and perceptions of perceived medical service quality.

The theoretical part includes the theories, which was discussed in detail in Chapter 2. From the basic information of service quality measurement, this chapter also includes the conceptual framework that shows the whole picture of the study on how to measure perceived medical service quality of the Acupuncture Treatment at Shanghai First People's Hospital.

3.1 Theoretical Framework

The theoretical framework includes the main literature presented in chapter 2 which focuses on the service quality measurement by SERVQUAL model.

The theoretical framework shown in figure 3.1 is based on the conceptual model of service quality developed by Parasuraman, Zeithalml, and Berry (1985) which can explain the process of patients' expectations and perceptions of the SERVQUAL dimensions by Tangibility, Reliability, Responsiveness, Assurance, and Empathy of the Acupuncture Treatment at Shanghai First People's Hospital.

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Figure 3.1: Customer Assessment of Service Quality
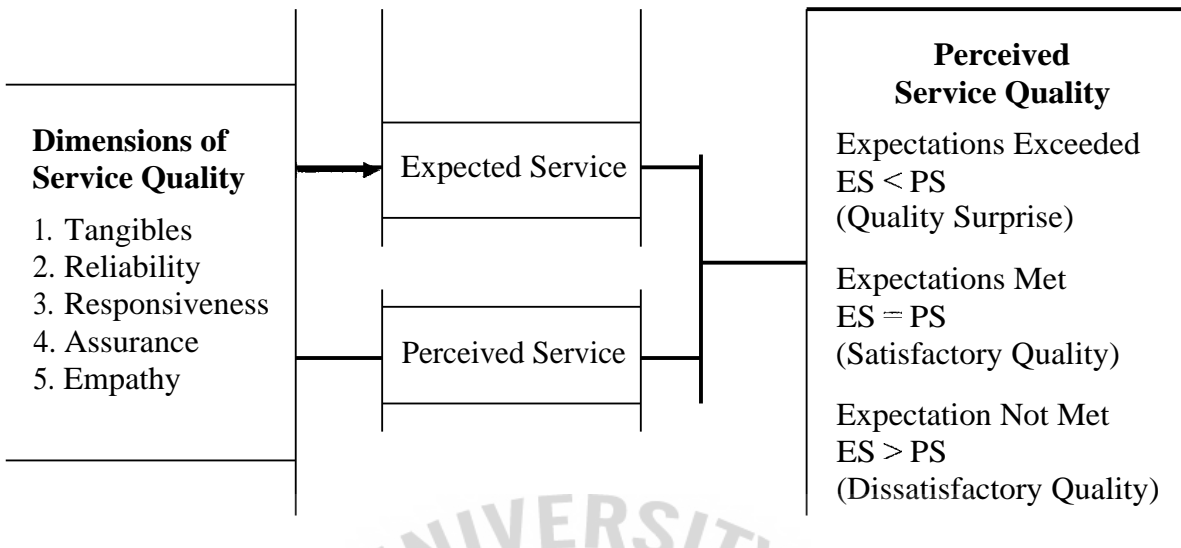
Source: Parasuraman, Zeithaml, and Berry, 1985: "A Conceptual Model of Service Quality and its Implications for Future Research, Journal of Marketing, Vol.49, Fall 1985, p.48

The 5 dimensions of the SERVQUAL Model would be utilized in the conceptualization model to measure perceived service quality in this research study.

3.2 Conceptual Framework

The conceptual framework is based on the theoretical framework of SERVQUAL dimension, which focuses on the difference between expected medical service quality and perceived medical service quality.

The researcher uses the expectation levels of the patients on medical service quality before receiving the Acupuncture Treatment, and compares this with their perception level after receiving Acupuncture Treatment. The result of this will reveal the quality service of the Acupuncture Treatment. After the researcher obtains the service quality results, the demographic characteristics will take place in the research. With the help of statistical methods, the service quality can be alienated into different segments; this could be by age, gender, education level, occupation, and personal income. However, it should be noted that the segmentation of service quality by demographic depends on the significance of the statistical results.

Figure 3.2: Conceptual Framework

PERCEPTION	**EXPECTATION**
1. Tangibility	1. Tangibility
2. Reliability	2. Reliability
3. Responsiveness	3. Responsiveness
4. Assurance	4. Assurance
5. Empathy	5. Empathy

Perceived Medical
Service Quality
Perception -Expectation

PS > ES
(Quality Surprise)

PS = ES
(Satisfactory Quality)

PS < ES
(Dissatisfactory Quality)

**Selected Demographic
Characteristics**

1. Age
2. Gender
3. Education Level
4. Occupation
5. Monthly Income

*Source: Modified from Model of Customer Assessment of Service Quality.
Parasuraman, Zeithaml, and Berry, 1985: "A Conceptual Model of Service Quality and its
Implications for Future Research, Journal of Marketing, V61.49, Fall 1985, p.48
PS = Perceived Medical Service Quality; ES = Expected Medical Service Quality.

The researcher has designed the conceptual framework to study the patients'
expectations and perceptions in Acupuncture Department at Shanghai First People's
Hospital. For the difference between patients' expectations and perceptions by using
the formula "Perception - Expectation = Perceived Service Quality". If perceived
medical service quality is higher than expected medical service quality, the result will

be quality surprise; if perceived medical service quality is equal to expected medical service quality, the result will be satisfactory quality; if perceived medical service quality is lower than expected medical service quality, the result will be dissatisfactory quality. After the researcher gets the result from measuring the difference between patients' expectations and perceptions, the researcher will evaluate whether or not selected demographic characteristics influence the difference between patients' expectations and perceptions.

The research presents the relationship between patients' expectations and perceptions of the medical service quality that they received and selected demographic characteristics. The SERVQUAL dimensions discussed in chapter 2 identify the performance that customer expectation focuses on tangibility, reliability, responsiveness, assurance, and empathy areas.

33 Research Hypothesis

Hypotheses are conjectural statements of the relationship between two or more variables that carry clear implication for testing the stated relations (James and David, 2003). The hypothesis statements of 5 dimensions are as follows:

1. H1 o: There is **no difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital.
    H1a: There is a **difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital.

2. H2o: There is **no difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Tangibility.**
    H2a: There is a **difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Tangibility.**

3. H3$_0$: There is **no difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Reliability.**

   H3$_a$: There is a **difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Reliability.**

4. H4$_0$: There is **no difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Responsiveness.**

   H4$_a$: There is **a difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Responsiveness.**

5. H5$_0$: There is **no difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Assurance.**

   H5$_a$: There is a **difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Assurance.**

6. H6$_0$: There is **no difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Empathy.**

   H6$_a$: There is a **difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Empathy.**

7. H7$_0$: There is **no difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Age.**

   H7$_a$: There is a **difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Age.**

8. $H8_0$: There is **no difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Gender.**

   $H8_a$: There is a **difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department Shanghai First People's Hospital in terms of **Gender.**

9. $H9_0$: There is **no difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Education Level.**

   $H9_a$: There is a **difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Education Level.**

10. $H10_0$: There is **no difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Occupation.**

    $H10_a$: There is a **difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Occupation.**

11. $H11_0$: There is **no difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Monthly Income.**

    $H11_a$: There is a **difference** between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of **Monthly Income.**

3.4 Operationalization Definitions and Types of Measurement

An operational definition gives a meaning to a concept by specifying the activities or operations necessary to measure it. The operationalization definitions and types of measurement are shown in Table 3.1.

Table 3.1: Operationalization Table

Concept	Conceptual Definition	Operational Component	Level of Measurement
1. Gender	Respondent's sex identification	- Male - Female	Nominal scale
2. Age	Respondent's age (his/her last birthday-age)	- Under 20 yrs - 21 – 30 yrs - 31 – 40 yrs - 41-50 yrs - Over 50 yrs	Nominal scale
3. Education Level	Respondent's years of school completed by adult participants	- Below elementary - Elementary - College - Bachelor degree - Master degree - Doctor degree above	Nominal scale
4. Current Occupation	Respondent's occupation	- Student - Worker - Business employee - Business owner - Private job - Retiree	Nominal scale
5. Monthly Income	Respondent's monthly income, the financial gain (eared or un-eared) accruing over a given period of time	- Below 1,000 RMB - 1,001 – 2,000 RMB - 2,001 – 3,000 RMB - 3,001 – 4,000 RMB - 4,001 – 5,000 RMB - 5,001 RMB above	Nominal scale
6. Tangibility	The patients' E&P towards the appearance of physical facilities equipment, personnel, and communication materials in hospital	- Up-to-date equipment & technology - Physical facilities visually appealing, clean and hygienic - Logical spatial arrangement of clinic, equipped with good ventilation & lighting - Medical staff well dressed and look neat with elegant manners	Interval scale

7. Reliability	The patients' E&P towards service providers' ability to provide good service	- Reliable check-up and proper treatment - When patients have problems, medical staff should be sympathetic and ready to help - Medical service provided by medical staff should be reliable and trustworthy - Medical staff provide their medical service by appointment, go their rounds on time - Make medical records accurately, carefully & skillfully to keep a patient's record	Interval scale
8. Responsiveness	The patients' E&P towards service providers' willingness to work	- Provide medical service on time - Provide medical service for emergency patients in time - Always be willing to help patients - Medical staff are not able to respond a patient's request promptly	Interval scale
9. Assurance	The patients' E&P towards knowledge and courtesy of service providers and their ability to convey trust and confidence	- Acupuncture department and its medical staff should be trustworthy - Accept the medical treatment because it is safe - Attentiveness in protecting patient's privacy - Distingue medical ethics & manner, good service attitude - Medical staff with abundant medical knowledge	Interval scale

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10. Empathy	The patients' E&P towards provision of caring individualized attention to patients by service providers	- Individual of medical service (follow patient's individual circs) - Understand patient's needs - Convenient consultation hours arranged to satisfy different patient's needs - Flexible arrangement for each department to reduce the time the patient run from one department to another	Interval scale

CHAPTER 4
RESEARCH METHODOLOGY

The fourth chapter deals with the research methodology. The purpose of the study is to examine the medical service quality by patients' expectation and perception of Acupuncture Treatment at Shanghai First People's Hospital. This research applied the SERVQUAL model to measure the difference between patients' expectations and perceptions.

This chapter describes the research methodology in terms of research design, respondents and sampling procedure, research instrumentation and questionnaire, data collection, pilot study and statistical treatment of data.

4.1 Research Design

This research's question focuses on patients' perceived medical service quality of the Acupuncture Treatment at Shanghai First People's Hospital. The SERVQUAL technology is used to compare the patients' expectation and perception. Data was collected by questionnaires completed by the responders who are the current patients receiving the Acupuncture Treatment at Shanghai First People's Hospital.

In order to provide some basic knowledge about acupuncture, the researcher has collected data from primary and secondary sources among several sources before starting to collect patients' data.

This research begins with collecting secondary data from various information sources including the Internet, reference information from Shanghai First People's Hospital, reference books. Also, for some information, the Shanghai City Acupuncture Clinic Committee was contacted particular statistics.

For primary data collection, the researcher has conducted a survey by distributing questionnaires in front of Acupuncture Department of Shanghai First

People's Hospital, including a qualitative interview to the current director of Acupuncture Department at Shanghai First People's Hospital, Mr. Zhang Zai Yi. The 30 sets of questionnaire were distributed at the first week of July and analyze later for pilot analysis. Another 360 sets of questionnaire were distributed and collected later for comprehensive analysis. This study's research design flow chart is shown in Figure 4.1.

Figure 4.1: The Research Design Flow Chart

1. Population

Selected from patients who are currently receiving acupuncture treatment as an alternative treatment in Acupuncture Department at Shanghai First People's Hospital.

2. Sampling Method

Selected from patients of Shanghai First People's Hospital by means of convenient sampling.

3. Sample Size

390 patients are selected as an appropriate and suitable sample size.

4. Focus Group Interview

6 people, who are existing patients and are receiving acupuncture treatment at Shanghai First People's Hospital.

5. Pilot Study

30 people, who are existing patients and are receiving Acupuncture Treatment at Shanghai First People's Hospital. These 30 sets of questionnaire were distributed and collected later for pilot analysis.

6. Survey

360 sets of questionnaire were distributed and collected later for analysis.

Likert Scale

In this study, the researcher uses 9-point Likert Scale. Likert Scale is a rating scale measuring the strength of agreement with a clear statement. Often administered in the form of a questionnaire it is used to gauge attitudes or reactions (http://www.jalt.org/test_/bro 7.htm, June 26 2005). The following scale is used in this research:

Strongly Disagree								Strongly Agree
1	2	3	4	5	6	7	8	9

In this study, the patient is asked to rate his/her expectation and perception of the medical service performance on a 9-point Likert scale ranging from 1 to 9. The value of the scale is from Strongly Disagree to Strongly Agree in the part of expectation and perception. Though 5-point Likert scale is applicable, 9-point Likert scale yields more accurate results. The g between expectation and perception is measured by the different two scales (perception minus expectation). Positive scores show that the performance is better than what the patient expects, while negative scores show that the medical services are of poor quality.

4.2 Respondents and Sampling Procedure

The researcher intended to study the patients' perceived medical service quality of Acupuncture Department at Shanghai First People's Hospital. The population or the sampling frame includes the overall patients of Shanghai First People's Hospital who are currently receiving Acupuncture Treatment as an alternative treatment in September 2005. The questionnaires will be collected from Monday through Saturday, 9:00 a.m. – 16:00 p.m., according to its operational time and the visiting boors of the hospital.

Sample Size

The number of out-patients who receive Acupuncture Treatment at Shanghai First People's Hospital since 2000 is illustrated in Table 4.1

Table 4.1: Number of Outpatients in Acupuncture Department at Shanghai First People's Hospital from 2000 to 2004.

Year	Number of Outpatients in Acupuncture Department
2000	45,552
2001	43,368
2002	53,976
2003	74,256
2004	94,536
Total	311,688

Source: The Statistic Department of Shanghai First People's Hospital in 2005.

The number of outpatients from 2000 to 2005 in Acupuncture Department at Shanghai First People's Hospital is shown in the above table. It is taken from the whole population of Acupuncture Department at Shanghai First People's Hospital. The total number of patients each year is calculated by dividing the number of years.

$$45,552 + 43,368 + 53,975 + 74,256 + 94,536 = 311,688 / 5 = 62,338$$

The population size of Acupuncture Department at Shanghai First People's Hospital is 62,338. The sample will be drawn from convenience sampling. An error in sampling allows 5% with 95% confident level. As a result, for questionnaires, the number 381 is sample size. Anderson's (1996) Table of Sample Size is shown in Table 4.2 Since the minimum sample size is 381, thus, for this study, the researcher will collect 390 sets of questionnaire.

Table 4.2: Theoretical Sample Size for Different Sizes of Population and a 95 Percent Level of Certainty.

Population/ (Sampling Frame)	Required Sample for Tolerable Error			
	5%	4%	3%	2%
100	79	85	91	96
500	217	272	340	413
1,000	277	375	516	705
5,000	356	535	897	1,622
50,000	**381**	593	1,044	2,290
100,000	382	596	1,055	2,344
1,000,000	384	599	1,065	2,344
25,000,000	384	600	1,067	2,400

Source: Gary Anderson, Fundamentals of Educational Research, 1996, p.202

Sampling Procedure

Apart from demographic part, the questionnaire consists of two main parts that the research will use to analyze the medical service quality: expectation and perception. The patient (respondent) will be asked to answer both parts of the questionnaire. When the expectation part is answered, the patient will be asked to recall their expectation before they came to use the acupuncture service at the hospital. Likewise, the patient will be asked to recall their perception after they receive the service, when they answer the perception part.

There is a case that the research must not overlook. That is when the patient obtains the acupuncture treatment at Shanghai First People's Hospital for the first time. In this case, the patient will be asked to do the expectation part of the questionnaire before he/she receives the service; then will be asked to do the perception part after receiving the service.

4.3 Research Instrumentation and Questionnaire

The instrument of this study is the questionnaire comprising 3 sections:

1. The respondent is asked about the demographic profile.
2. The respondent is asked their expectations towards acupuncture treatment of Shanghai First People's Hospital.
3. The respondent is asked their perceptions of the actual medical service from Acupuncture Department at Shanghai First People's Hospital provided.

Those last 2 sections were adapted from the SERVQUAL instrument, which was developed in 1988 by Parasuraman, Zeithaml and Berry and subsequently refined by these researchers in 1991 as a general methodology for measuring service quality. The SERVQUAL instrument measures the service quality by evaluating the discrepancy between the patients' ultimate expectation and their perception of actual medical service delivered.

" Perception – Expectation = Perceived Service Quality "

Thus, the perceived medical service quality scale consists of expectation and perception. There are 22 statements for each, categorized in 5 dimensions. A set of statements was created to represent 5 dimensions of medical service quality including: tangibility, reliability, responsiveness, assurance, and empathy. Each dimensions has a 4 ~ 5 statements associated with it. The intent of the statement set is to provide a quantifiable scale for the components of each dimension. For each SERVQUAL statement, the researcher provided with a 9-point Likert scales ranging for strongly disagree to strongly agree. So each statement vest in which dimension of medical service quality is shown in Table 4.3.

Table 4.3: Questionnaire

Dimension of Service Quality	Number of Statements
1. Tangibility	Q1. Up-to-date equipment & technology
	Q2. Physical facilities visually appealing, clean and hygienic
	Q3. Logical spatial arrangement of clinic, equipped with good ventilation & lighting
	Q4. Medical staff well dressed and appear neat with elegant manners
2. Reliability	Q5. Reliable check-up, proper treatment
	Q6. When patients have problems, medical staff should be sympathetic And be ready to help
	Q7. Medical staff provide medical service is dependable & trusty
	Q8. Medical staff provide their medical service by appointment, go their rounds on time
	Q9. Make medical records accurately to keep a patient's record
3. Responsiveness	Q10. Provide medical service on time
	Q11. Provide medical service for emergency patients in time
	Q12. Staff are always willing to help patients
	Q13. Medical staff are not able to respond to the patient's request promptly because they are busy
4. Assurance	Q14. Acupuncture department and its medical staff are trustworthy
	Q15. Receive safe medical treatment
	Q16. Attentiveness in protecting patient's privacy
	Q17. Distingue medical ethics & manner, good service attitude
	Q18. Medical staff with abundant medical knowledge

5. Empathy	Q19. Individual medical service (follow patient's individual circumstances)
	Q20. Understand patient's needs
	Q21. Convenient consultation hours arranged to satisfy different patient's needs
	Q22. Flexible arrangement for each department to reduce the time the patient runs from one departments to another

4.4 Data Collection

The data of this research is gathered by using questionnaires. The researcher will distribute questionnaires in front of Acupuncture Department at Shanghai First People's Hospital. The questionnaires will be completed by the patients who have had experience of medical service quality delivered by the Acupuncture Department as alternative treatment, and the patients who are currently receiving the treatment.

4.5 Pilot Study

The pilot study is the study of the reliability of the questionnaire. This is also known as the pretest of the questionnaire. The statistical method that involves in this state is called the Reliability Analysis. The Reliability Analysis allows the researcher to study the properties of measurement scales and the items that make them up. The Reliability Analysis procedure calculates the number of measures of scales commonly used and also provides information about the relationships between individual items in the scale. In this research's pretest, 30 questionnaires were collected, and the Reliability Analysis was done by using Cronbach's alpha. The summary table of the output is presented in Table 4.4. The reliability analysis procedure is attached in Appendix B with the help of SPSS.

Table 4.4: Reliability Result.

	Reliability Coefficient (Cronbach's alpha)	
	Perception	**Expectation**
Tangibility	0.8458	0.8405
Reliability	0.9120	0.7985
Responsiveness	0.8314	0.7344
Assurance	0.8945	0.8807
Empathy	0.8653	0.9010
Average	***0.8698***	***0.8310***

Sekaran (2000) suggested that the reliability should be greater than 0.6 in order to consider a questionnaire reliable. Thus, the Reliability Coefficient has shown that the questions in the questionnaire are reliable, and the researcher can proceed with the study.

4.6 Statistical Treatment of Data

The collected data will be sorted and coded into the symbolic form that is applied in Statistical Package for Social Science (SPSS) program; the data will be analyzed and summarized in a readable and easily interpretable format. The SPSS program will be used to summarize these data. SPSS is a sophisticated piece of software used by social scientists and related professionals for statistical analysis (Coakes and Steed, 2003). The program is utilized and then the results will be used to summarize and interpret data. All the obtained tables and data presentation from SPSS procedures are supported with the descriptive analysis.

Descriptive Statistics

The researcher uses descriptive statistics of frequency distribution such as means, standard deviation, and percentage to describe the demographic characteristics of the respondents which are age, gender, education level, occupation and income. Descriptive research is the transformation of raw data into a form that will make them easy to understand and interpret, rearranging, ordering, manipulating data to provide

descriptive information (James and David 2003). Using the descriptive statistic, the frequency and the percentage of the population information will be summarized.

Inferential Statistics

Inferential statistics is a branch of statistics that allows the researcher to make judgment about the whole population based upon the results generated by samples (John, William and Whitmore 1993). The inferential statistic is used to make inferences or judgments about a population on the basis of a sample. The researcher uses inferential statistics to do hypothesis testing. The following method and test will be applied:

Paired Samples Test to test hypothesis which are related to the difference between patients' expectations and their perceptions of medical service quality offered by Acupuncture Department at Shanghai First People's Hospital.

Paired Samples Test uses the same groups of people who are compared at two different times (e.g., participants before and after the service). A group's post test score is generally more like their own pretest score than any randomly chosen post test score. So there is generally a correlation between pretest and post test scores. Paired Sample Test is to compare the participant pre- and post test scores (same group at different times).

The results of this research will be analyzed by the statistical test from the following formula (James and David, 2003):

$$t = \frac{d}{S_d / \sqrt{n}}$$

There are $n - 1$ degrees of freedom and

d is the difference of mean.

d is the mean of the difference between the paired or related observations.

S_d is the standard deviation of the distribution of the difference between the paired or related observations.

$\sqrt{n}$ is the number of paired observation.

The standard deviation of the differences, S_a, is computed by the following formula:

$$S_d \sqrt{\frac{Ed^e - \frac{(\Sigma d)^2}{}}{n - 1}}$$

where the degrees of freedom is computed as $df = n - 1$

In this study, the researcher computes the difference of mean in each term in each part then compares the mean of expectation part and mean of perception part to get the mean of the difference.

CHAPTER 5

PRESENTATION OF DATA AND

CRITICAL DISCUSSION OF RESULTS

This research was designed to measure the medical service quality of Acupuncture Treatment at Shanghai First People's Hospital. A sample of 390 patients completed the expectation and perception scales of the SERVQUAL survey. The purpose of this chapter is to present the findings from the procedures discussed in Chapter 4.

This chapter provides the descriptive statistics and the results of the SERVQUAL first part's analysis data analysis and the findings. The chapter is divided into two sections. The first part describes the general information of the respondents. Secondly, Paired Sample t-test is applied to testing the hypotheses.

The data were analyzed by using the Statistical Package for the Social Sciences (SPSS). The analyses were evaluated by using a significant level of .05.

5.1 Descriptive Analysis

The descriptive statistic is the method that is used to describe or summarize information about a population or sample (Zikmund, 1997). In the study, descriptive tables present the general data of the targeted patients. The tables include the sample size of gender, age, education level, current occupation and monthly income.

Table 5.1: Sample Size of Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	148	37.9	37.9	37.9
	Female	242	62.1	62.1	100.0
	Total	390	100.0	100.0	

A number of 390 patients were involved in the survey. Table 5.1 reveals the gender of the respondents and explains that female is the bigger group of the respondents (62.1%). The male group (37.9%) is smaller than the female group. This can be implied that most of the acupuncture treatment users are females.

Table 5.2: Sample Size of Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	under 20 years	4	1.0	1.0	1.0
	21-30 years	54	13.8	13.8	14.9
	31-40 years	75	19.2	19.2	34.1
	41-50 years	109	27.9	27.9	62.1
	51-60 years	89	22.8	22.8	84.9
	over 61 years	59	15.1	15.1	100.0
	Total	390	100.0	100.0	

Table 5.2 reveals the age groups of the respondents and explains that those whose age range between 41-50 years represent the largest group of respondents (27.9%). Other groups of the respondents are represented by those whose age range between 51-60 years (22.8%), 31-40 years (19.2%), over 61 years (15.1%) and 21-30 years (13.8%). It also includes the respondents whose age ranges are under 20 years (1.0%). This can be implied that the age range of those who use the acupuncture treatment most is 41-50 years.

Table 5.3: Sample Size of Education Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below elementary	80	20.5	20.5	20.5
	Elementary	126	32.3	32.3	52.8
	College	118	30.3	30.3	83.1
	Bachelor degree	63	16.2	16.2	99.2
	Master degree	3	.8	.8	100.0
	Total	390	100.0	100.0	

Table 5.3 reveals the education level of respondents and explains that the majority of the respondents are of elementary level (32.3%) and of college level (30.3%). It also includes the respondents who arc below elementary level (20.5%), bachelor degree (16.2%)

and master degree (0.8%). This can be implied that most of acupuncture treatment users are of elementary level which means they do not have high education.

Table 5.4: Sample Size of Current Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Student	10	2.6	2.6	2.6
	Worker	68	17.4	17.4	20.0
	Business employee	169	43.3	43.3	63.3
	Business owner	21	5.4	5.4	68.7
	Private job	18	4.6	4.6	73.3
	Retiree	104	26.7	26.7	100.0
	Total	390	100.0	100.0	

Table 5.4 reveals the current occupation of the respondents and explains that the majority of the respondents are business employees (43.3%), retirees (26.7%) and workers (17.4%). It also includes the respondents who are business owners (5.4%), those who have private jobs (4.6%) and students (2.6%). This can be implied that most of acupuncture treatment users are business employees and retirees.

Table 5.5: Sample Size of Monthly Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1000 RMB	59	15.1	15.1	15.1
	1001-2000 RMB	133	34.1	34.1	49.2
	2001-3000 RMB	115	29.5	29.5	78.7
	3001-4000 RMB	56	14.4	14.4	93.1
	4001-5000 RMB	13	3.3	3.3	96.4
	More than 5000 RMB	14	3.6	3.6	100.0
	Total	390	100.0	100.0	

Table 5.5 reveals the monthly income of the respondents and explains that the majority of the respondents' monthly income is 1001-2000 RMB (34.1%) and 2001-3000 RMB (29.5%). It also includes the respondents whose monthly income is less than 1000 RMB (15.1%), 3001-4000 RMB (14.4%), over 5000 RMB (3.6%) and 4001-5000 RMB (3.3%). This can be implied that most of acupuncture treatment users' monthly income is between 1001-2000 RMB.

5.2 Test of Hypotheses

Hypothesis 1

$H1_0$: There is no difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital.

H1 a: There is a difference between patients' expectations and perceptions of medical services offered by Acupuncture department at Shanghai First People's Hospital.

Table 5.6: Paired Samples Statistics of Expectation and Perception

	Mean	N	Std. Deviation	Std. Error Mean
Expectation	7.8922	390	.76281	.03863
Perception	7.4057	390	.71097	.03600

Table 5.7: Paired Samples Test of Expectation and Perception

	Paired Differences							Sig. (2-tailed)
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
Expectation Perception	.4865	1.25432	.06351	.3616	.6114	7.659	389	.000

From the pair-sample t-test, the p-value is less than 0.05 - computed significant 2-tailed value is 0.000. It is obvious that, at 95% confident level, the null hypothesis can be rejected and it is concluded that the significant difference exists between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital.

Mean Gap Score = 7.8922 - 7.4057 = 0.4865, Expectation > Perception = Dissatisfactory quality. At Shanghai First People's Hospital, the patients are not satisfied with the perceived medical service quality from Acupuncture Department.

Hypothesis 2

H2$_0$: There is no difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Tangibility.

H2a: There is a difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Tangibility.

Table 5.8: Paired Samples Statistics of Expectation and Perception by Tangibility

	Mean	N	Std. Deviation	Std. Error Mean
Ex Tangibility	7.7968	390	.97126	.04918
Pe Tangibility	7.3212	390	.91697	.04643

Table 5.9: Paired Samples Test of Expectation and Perception by Tangibility

	Paired Differences							
				95% Confidence Interval of the Difference				Sig.
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	(2-tailed)
Ex – Pe By Tangibility	.4756	1.43083	.07245	.3332	.6181	6.565	389	.000

From the pair-sample t-test, the p-value is less than 0.05 - computed significant 2-tailed value is 0.000. It is obvious that, at 95% confident level, the null hypothesis can be rejected and it is concluded that the significant difference exists between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Tangibility.

Mean Gap Score = 7.7968 - 7.3212 = 0.4756, Expectation > Perception = Dissatisfactory quality. At Shanghai First People's Hospital, the patients are not satisfied with the perceived medical service quality from Acupuncture Department in Tangibility area.

Hypothesis 3

H3$_0$: There is no difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Reliability.

H3a: There is a difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Reliability.

Table 5.10: Paired Samples Statistics of Expectation and Perception by Reliability

	Mean	N	Std. Deviation	Std. Error Mean
Ex Reliability	7.9097	390	.82347	.04170
Pe Reliability	8.6379	390	.33076	.01675

Table 5.11: Paired Samples Test of Expectation and Perception by Reliability

	Paired Differences							Sig. (2-tailed)
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
Ex − Pe By Reliability	-.7282	.87182	.04415	-.8150	-.6414	-16.495	389	.000

From the pair-sample t-test, the p-value is less than 0.05 - computed significant 2-tailed value is 0.000. It is obvious that, at 95% confident level, the null hypothesis can be rejected and it is concluded that the significant difference exists between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Reliability.

Mean Gap Score = 7.9097 − 8.6379 = − 0.7282, Expectation < Perception = Quality Surprise. At Shanghai First People's Hospital, the patients are satisfied with the perceived medical service quality from Acupuncture Department in Reliability area.

<u>Hypothesis 4</u>

H4$_0$: There is no difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Responsiveness.

H4a: There is a difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Responsiveness.

Table 5.12: Paired Samples Statistics of Expectation and Perception by Responsiveness

	Mean	N	Std. Deviation	Std. Error Mean
Ex Responsiveness	7.9077	390	.79086	.04005
Pe Responsiveness	7.1147	390	.89601	.04537

Table 5.13: Paired Samples Test of Expectation and Perception by Responsiveness

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Ex – Pe By Responsiveness	.7929	1.38619	.07019	.6549	.9310	11.297	389	.000

From the pair-sample t-test, the p-value is less than 0.05 - computed significant 2-tailed value is 0.000. It is obvious that, at 95% confident level, the null hypothesis can be rejected and it is concluded that the significant difference exists between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Responsiveness.

Mean Gap Score = 7.9077 - 7.1147 = 0.7929, Expectation > Perception = Dissatisfactory quality. At Shanghai First People's Hospital, the patients are not satisfied with the perceived medical service quality from Acupuncture Department in Responsiveness area.

Hypothesis 5

H50: There is no difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Assurance.

H5a: There is a difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Assurance.

Table 5.14: Paired Samples Statistics of Expectation and Perception by Assurance

	Mean	N	Std. Deviation	Std. Error Mean
Ex Assurance	8.0118	390	.72116	.03652
Pe Assurance	7.1938	390	.89945	.04555

Table 5.15: Paired Samples Test of Expectation and Perception by Assurance

	Paired Differences							
				95% Confidence Interval of the Difference				Sig.
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	(2-tailed)
Ex – Pe By Assurance	.8179	1.31848	.06676	.6867	.9492	12.251	389	.000

From the pair-sample t-test, the p-value is less than 0.05 - computed significant 2-tailed value is 0.000. It is obvious that, at 95% confident level, the null hypothesis can be rejected and it is concluded that the significant difference exists between the patients' expectation and the patient's perception about medical services offered by Acupuncture Treatment at Shanghai First People's Hospital in terms of Assurance.

Mean Gap Score = 8.0118 - 7.1938 = 0.8179, Expectation > Perception = Dissatisfactory quality. At Shanghai First People's Hospital, the patients are not satisfied with perceived medical service quality from Acupuncture Department in Assurance area.

Hypothesis 6

H6$_0$: There is no difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Empathy.

H6a: There is a difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Empathy.

Table 5.16: Paired Samples Statistics of Expectation and Perception by Empathy

	Mean	N	Std. Deviation	Std. Error Mean
Ex Empathy	7.8006	390	.81034	.04103
Pe Empathy	6.5058	390	1.40136	.07096

Table 5.17: Paired Samples Test of Expectation and Perception by Empathy

	Paired Differences							Sig. (2-tailed)
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
Ex – Pe By Empathy	1.2949	1.90265	.09634	1.1055	1.4843	13.440	389	.000

From the pair-sample t-test, the p-value is less than 0.05 - computed significant 2-tailed value is 0.000. It is obvious that, at 95% confident level, the null hypothesis can be rejected and it is concluded that the significant difference exists between the patients' expectation and the patient's perception about medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Empathy.

Mean Gap Score = 7.8006 − 6.5058 = 1.2949, Expectation > Perception = Dissatisfactory quality. At Shanghai First People's Hospital, the patients are not satisfied with perceived medical service quality from Acupuncture Department in Empathy area.

Hypothesis 7

H70: There is no difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Age.

H7a: There is a difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of by Age.

Table 5.18: Paired Samples Statistics of Expectation and Perception by Age

Age		Mean	N	Std. Deviation	Std. Error Mean
<20	EXPECT	8.4773	4	.50548	.25274
	PERCEP	6.7386	4	.63893	.31946
21-30	EXPECT	7.9680	54	.75171	.10230
	PERCEP	7.1692	54	1.01399	.13799
31-40	EXPECT	7.9036	75	.72650	.08389
	PERCEP	7.4794	75	.62509	.07218
41-50	EXPECT	7.9437	109	.78097	.07480
	PERCEP	7.4537	109	.63534	.06085
51-60	EXPECT	7.7263	89	.66987	.07101
	PERCEP	7.5031	89	.65926	.06988
61>	EXPECT	7.9237	59	.89759	.11686
	PERCEP	7.3382	59	.63766	.08302

Table 5.19: Paired Samples Test of Expectation and Perception by Age

age		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
<20	EX - PE	1.7386	.42377	.21188	1.0643	2.4129	8.206	3	.004
21-30	EX - PE	.7988	1.46085	.19880	.4001	1.1976	4.018	53	.000
31-40	EX - PE	.4242	1.21323	.14009	.1451	.7034	3.028	74	.003
41-50	EX - PE	.4900	1.20413	.11533	.2614	.7186	4.248	108	.000
51-60	EX - PE	.2232	1.10444	.11707	-.0095	.4558	1.906	88	.040
61>	EX - PE	.5855	1.35785	.17678	.2317	.9394	3.312	58	.002

The pair-sample t-test indicated that the test statistic value is less than 0.05 for age group. In this research, the null hypothesis can be rejected and this can be concluded that there is a difference between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Age.

Hypothesis 8

H80: There is no difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Gender.

H8a: There is a difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Gender.

Table 5.20: Paired Samples Statistics of Expectation and Perception by Gender

gender		Mean	N	Std. Deviation	Std. Error Mean
Male	EXPECT	7.9297	148	.72707	.05976
	PERCEP	7.4082	148	.70425	.05789
Female	EXPECT	7.8693	242	.78446	.05043
	PERCEP	7.4042	242	.71650	.04606

Table 5.21: Paired Samples Test of Expectation and Perception by Gender

		Paired Differences							
					95% Confidence Interval of the Difference				Sig.
gender		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	(2-tailed)
Male	EX - PE	.5215	1.27697	.10497	.3141	.7289	4.968	147	.000
Female	EX - PE	.4651	1.24244	:07987	.3077	.6224	5.823	241	.000

The pair-sample t-test indicated that the test statistic value is less than 0.05 for group of gender. The null hypothesis can be rejected and this can be concluded that there is a difference between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Gender.

Hypothesis 9

H9$_0$: There is no difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Education Level.

H9a: There is a difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Education Level.

Table 5.22: Paired Samples Statistics of Expectation and Perception by Education Level

education level		Mean	N	Std. Deviation	Std. Error Mean
Below elementary	EXPECT	7.9023	80	.77271	.08639
	PERCEP	7.3506	80	.64401	.07200
Elementary	EXPECT	7.8618	126	.77533	.06907
	PERCEP	7.4134	126	.73591	.06556
College	EXPECT	7.8555	118	.73876	.06801
	PERCEP	7.5143	118	.59701	.05496
Bachelor	EXPECT	8.0094	63	.71270	.08979
	PERCEP	7.3023	63	.88382	.11135
Master	EXPECT	7.8788	3	1.94200	1.12121
	PERCEP	6.4545	3	.71002	.40993

Table 5.23: Paired Samples Test of Expectation and Perception by Education Level

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
Education level					Lower	Upper			
Below elementary	EX - PE	.5517	1.21690	.13605	.2809	.8225	4.055	79	.000
Elementary	EX - PE	.4484	1.23669	.11017	.2304	.6665	4.070	125	.000
College	EX - PE	.3413	1.20799	.11120	.1211	.5615	3.069	117	.003
Bachelor	EX - PE	.7071	1.39912	.17627	.3547	1.0594	4.011	62	.000
Master	EX - PE	1.4242	1.23427	.71260	-1.6418	4.4903	1.999	2	.184

The pair-sample t-test indicated that the test statistic value is less than 0.05 for education level group which excludes the group of master degree. In this research, the null hypothesis can be rejected and this can be concluded that there is a difference between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Education Level, but the group of master degree is excluded.

Hypothesis 10

H10$_0$: There is no difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Occupation.

HI Oa: There is a difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Occupation.

Table 5.24: Paired Samples Statistics of Expectation and Perception by Occupation

occupation		Mean	N	Std. Deviation	Std. Error Mean
Student	EXPECT	8.1773	10	.94874	.30002
	PERCEP	6.0318	10	1.11032	.35111
Worker	EXPECT	7.9572	68	.79919	.09692
	PERCEP	7.4920	68	.56122	.06806
Business employee	EXPECT	7.8505	169	.70118	.05394
	PERCEP	7.4952	169	.67424	.05186
Business owner	EXPECT	8.1190	21	.73511	.16041
	PERCEP	7.5390	21	.55787	.12174
Private job	EXPECT	7.7601	18	.69999	.16499
	PERCEP	7.5126	18	.60137	.14174
Retiree	EXPECT	7.8671	104	.82947	.08134
	PERCEP	7.2906	104	.71731	.07034

Table 5.25: Paired Samples Test of Expectation and Perception by Occupation

occupation		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Student	EX - PE	2.1455	1.36831	.43270	1.1666	3.1243	4.958	9	.001
Worker	EX - PE	.4652	1.29645	.15722	.1514	.7790	2.959	67	.004
Business employee	EX - PE	.3553	1.16565	.08967	.1783	.5323	3.963	168	.000
Business owner	EX - PE	.5801	1.18835	.25932	.0392	1.1210	2.237	20	.037
Private job	EX - PE	.2475	1.19014	.28052	-.3444	.8393	.882	17	.390
Retiree	EX - PE	.5765	1.28264	.12577	.3270	.8259	4.584	103	.000

The pair-sample t-test indicated that the test statistic value is less than 0.05 for occupation group which excludes the group of private jobs. In this research, the null hypothesis can be rejected and this can be concluded that there is a difference between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Occupation, but the group of private job is excluded.

Hypothesis 11

Hilo: There is no difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Income.

H11a: There is a difference between patients' expectations and perceptions of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Income.

Table 5.26: Paired Samples Statistics of Expectation and Perception by Income

income		Mean	N	Std. Deviation	Std. Error Mean
<1000	EXPECT	7.7088	59	.65638	.08545
	PERCEP	7.2589	59	.96025	.12501
1001-2000	EXPECT	7.8684	133	.80878	.07013
	PERCEP	7.3476	133	.74757	.06482
2001-3000	EXPECT	8.0909	115	.76757	.07158
	PERCEP	7.3976	115	.60879	.05677
3001-4000	EXPECT	7.6558	56	.64287	.08591
	PERCEP	7.7013	56	.46394	.06200
4001-5000	EXPECT	7.7238	13	.71376	.19796
	PERCEP	7.6224	13	.55060	.15271
5000>	EXPECT	8.3604	14	.67029	.17914
	PERCEP	7.2597	14	.56307	.15049

Table 5.27: Paired Samples Test of Expectation and Perception by Income

income		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
<1000	EX - PE	.4499	1.33079	.17325	.1031	.7967	2.597	58	.012
1001-2000	EX - PE	.5208	1.26377	.10958	.3041	.7376	4.753	132	.000
2001-3000	EX - PE	.6933	1.27429	.11883	.4579	.9287	5.834	114	.000
3001-4000	EX - PE	-.0455	.95724	.12792	-.3018	.2109	-.355	55	.724
4001-5000	EX - PE	.1014	1.20535	.33430	-.6270	.8298	.303	12	.767
5000>	EX - PE	1.1006	1.15450	.30855	.4341	1.7672	3.567	13	.003

The pair-sample t-test indicated that the test statistic value is less than 0.05 for the income group whose income is 3001-4000 and 4001-5000 RMB. In this research, the null hypothesis can be rejected and this can be concluded that there is a difference between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Income, but the group of monthly income 3001-4000 and 4001-5000 RMB is excluded.

Table 5.28: Summary of Mean Score in Five Dimensions

	Mean Score			Dissatisfy	Satisfy
	Expectation	Perception	Ex - Pe		
Tangibility	7.7968	7.3212	.4756	4	
Reliability	7.9097	8.6379	-.7282		√
Responsiveness	7.9077	7.1147	.7929	√	
Assurance	8.0118	7.1938	.8179	4	
Empathy	7.8006	6.5058	1.2949	√	

From the overall findings shown in table 5.28, it can be seen that the patients are satisfied with the Acupuncture Department in term of reliability only. They are not satisfied with in terms of Tangibility, Responsiveness, Assurance and Empathy.

Table 5.29: Summary of Hypothesis Testing

Hypothesis	Statistics Test	Level of Significance	Results
H1o: There is **no difference** between patients' expectations and perceptions	Paired sample test	0.000	Reject null hypothesis
H2o: There is **no difference** between patients' expectations and perceptions in terms of **Tangibility.**	Paired sample test	0.000	Reject null hypothesis
H3o: There is **no difference** between patients' expectations and perceptions in terms of **Reliability.**	Paired sample test	0.000	Reject null hypothesis
H4o: There is **no difference** between patients' expectations and perceptions in terms of **Responsiveness.**	Paired sample test	0.000	Reject null hypothesis
H5o: There is **no difference** between patients' expectations and perceptions in terms of **Assurance.**	Paired sample test	0.000	Reject null hypothesis
H6o: There is **no difference** between patients' expectations and perceptions in terms of **Empathy.**	Paired sample test	0.000	Reject null hypothesis
H7o: There is **no difference** between patients' expectations and perceptions in terms of **Age.**	Paired sample test	0.000	Reject null hypothesis
H8o: There is **no difference** between patients' expectations and perceptions in terms of **Gender.**	Paired sample test	0.000	Reject null hypothesis

H9o: There is **no difference** between patients' expectations and perceptions in terms of **Education Level.**	Paired sample test	0.000	Reject null hypothesis (Exclude Master Degree)
1410o: There is **no difference** between patients' expectations and perceptions in terms of **Occupation.**	Paired sample test	0.000	Reject null hypothesis (Exclude Private job)
Hi 10: There is **no difference** between patients' expectations and perceptions in terms of **Monthly Income**	Paired sample test	0.000	Reject null hypothesis (Exclude 3001-5000RMB)

CHAPTER 6

SUMMARY FINDINGS, CONCLUSIONS

AND RECOMMENDATIONS

This chapter presents the summary of the findings, discussions, conclusions recommendations and further study.

There are three sections in this chapter. The first section is the summary of the findings. The second is the discussion, conclusion and recommendation of the study. The third is the researcher's suggestions for further study.

6.1 Summary of the Findings

The researcher utilized Parasuraman's (1985) SERVQUAL Model and 390 patients to measure the correlation between patients' expectation and patients' perception of medical service quality. In this study, the research objectives are twofold. The first is to measure the difference between the patients' perceived medical service quality offered by Acupuncture Department at Shanghai First People's Hospital in terms of Tangibility, Reliability, Responsiveness, Assurance, and Empathy. The second is to measure the difference between the patients' perceived medical service quality offered by Acupuncture Department at Shanghai First People's Hospital in terms of demographic factors by Age, Gender, Education Level, Occupation and Personal Income. The main purpose of this study is to discover the feedback information acquired systematically from the patients by applying service quality instrument - SERVQUAL Model to measure the patients' expectation and the patients' perception of medical service quality in order to improve the quality of medical service at Acupuncture Department in Shanghai First People's Hospital.

Based on the whole study, the summary of the findings are shown in brief statements based on the problems and hypotheses, the researcher concludes that all five dimensions of service quality and demographic factors have significant relationships between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in the Republic of China The summarized results are as follows:

1. The overall findings of the study show that the patients are satisfied with the Acupuncture Department in terms of Reliability only. They are not satisfied with in terms of Tangibility, Responsiveness, Assurance and Empathy.

2. The overall findings of the study show that the female patients aged 41-50 years old, business employees, elementary education, and monthly income between 1001-2000 RMB are the biggest group who ask for Acupuncture Department at the Acupuncture Department in Shanghai First People's Hospital

3. The overall findings of the study show that the patients with master's degree, patients with private jobs and monthly income between 3001-5000 RMB are satisfied with the medical services offered by Acupuncture Department at Shanghai First People's Hospital.

The previous studies mentioned in chapter 2, Methanukorh (1999) showed that the patients who were different in age had significant different service quality expectations in terms of reliability and responsiveness. At different ages, people have different opinions and understanding. Their expectations depend on different situations they are in the reliability and responsiveness of the service reflect people of different ages thought directly. According to Hiidenhovi et al., (2002) the SERVQUAL instrument is a good tool which enabled systematic access to the patient feedback on the service quality of Outpatient Department. The instrument allowed the detection of strengths of the service provided by a large organization and long-term trends from the patients' perspective.

6.2 Discussions, Conclusions and Recommendations of the Study

Based on the each result of each hypothesis, the researcher discusses it and gives comments which are as follows:

The researcher found out that the significant difference exists between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital. The hospital has to survey and interview the patients in more detail to find out what the problems are. After the survey and the interview, it has to find ways to satisfy and fulfill their needs and requirements. For example to improve service quality, improve facilities level, and provide professional service and suggestions.

The researcher found out that the significant difference exists between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Tangibility. Tangibility of the medical service in Acupuncture Department includes 4 statements: whether the equipment & technology used in this department are up-to-date. The researcher suggested maintaining safety, investing more, improving the cleaning method for physical facilities to make them visually cleaner and hygienic. Flexible arrangements, the clinic equipped with good ventilation and lighting was also suggested. Clean dresses for acupuncturists and nurses, clean environment and decent manners were also suggested.

The researcher found out that the significant difference exists between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Reliability. Reliability of the medical service in Acupuncture Department includes 5 statements: Acupuncturists provide reliable check-up and proper treatment. These are the factors that patients are concerned most. According to the hypothesis, the acupuncturists in

this department provided treatment efficiently and also provided reliable and trustworthy medical service. Acupuncturists and nurses are sympathetic and willing to help patients' problems. Acupuncturists provide their medical service by appointment, go their rounds on time. The acupuncturists made medical records accurately to keep the patient's record. However, there is the area the patients are the least satisfied with.

The researcher found out that the significant difference exists between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Responsiveness. Responsiveness of the medical service in Acupuncture Department includes 4 statements. The researcher recommends that the hospital or the department should set up the stronger regulations for these acupuncturists and nurses to provide service on time, not to leave work early. The researcher recommends the acupuncture department should set up a team for emergency cases to provide emergency service for patients in time. The researcher recommends that training should be provided to change negative perception or increase incentive so that the acupuncturists and nurses will always be willing to help the patients and that they should be able to respond the patients' request promptly.

The researcher found out that the significant difference exists between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Assurance. Assurance of medical service in acupuncture department includes 5 statements. The researcher recommends that the department should provide more training for medical knowledge and the way of communicate with patients. Acupuncture Department and its medical staffs should be trustworthy so that the patient will feel that the medical treatment they receive here is safe. Acupuncturists should have abundant medical knowledge, medical ethics and decent manners, good service attitude, and attentiveness to protect the patient's privacy.

The researcher found out that the significant difference exists between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Empathy. Empathy of the medical service in Acupuncture Department includes 4 statements. The researcher recommends that the acupuncturist should explain about the treatment in details to the patient before the treatment. The department should provide training courses for human psychology to every staff in this department to make them understand the patient's needs, appropriate and convenient consultation hours should be arranged to satisfy different patient's needs and to follow the patient's individual circumstances. The researcher also recommends that the hospital should set up a proper process, try to show that the process is not difficult to follow and flexible arrangement for each department, reduce the time the patients run from one department to another.

The researcher found out that the significant difference exists between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Age. The hospital should know the exact needs and expectations of the patients. The interview and surveys should concentrate on current patients, because different ages of patients have different understanding and knowledge about the Acupuncture Treatment. In fact, their conditions are different. The hospital should provide medical service according to their needs. The hospital has to spread the knowledge and ideas about Acupuncture Treatment to every patient. Every age level has different needs and knowledge, hospital should make them know that Acupuncture Treatment is beneficial to everyone and it can satisfy different needs of different age group of patients.

The researcher found out that the significant difference exists between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Gender. The hospital should know what different requirements male and female patients have.

According to their different requirements the hospital has to provide corresponding services to them. For example, provide separate rooms for male and female patients. Arrangements should be made for the treatment and service staff according to their requirements.

The researcher found out that the significant difference exists between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Education Level. The group of master degree is excluded. The hospital has to provide effective ways to make them understand about the Acupuncture Treatment according to different education level and customers' conditions. As their education levels are different, their ability and knowledge are different. For this situation, the hospital has to provide simple and easy information to them to make them understand the meaning.

The researcher found out that the significant difference exists between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Occupation, but the group of private job is excluded. The hospital has to give more advice to make all the people understand the meaning and the benefits of Acupuncture Treatment. The best way to make people with different occupations accept this treatment is making them know about it. So the teaching and giving advice are very important.

The researcher found out that the significant difference exists between the patients' expectation and the patient's perception of medical services offered by Acupuncture Department at Shanghai First People's Hospital in terms of Income, but the group with monthly income 3001-4000 and 4001-5000 RMB is excluded. The hospital has to make customers know that Acupuncture Treatment is a cheaper and safe alternative, the hospital can use cost efficiency method to prove that this treatment is the best way and natural. In other words, the hospital has to give more

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advice and provide related information to customers.

Based on the overall study, the researcher comments that the marketing management of Shanghai First People's Hospital should consider 5 main points as follows:

1. Introduce advantages and disadvantages of the Acupuncture Treatment. Hospital should focus on the benefits of this treatment: no side-effect, effective, cheaper cost and faster. Face to the people does not accept this treatment because some they are afraid of needles. Hospital can provide proper psychotherapy to customers who are afraid of needle.

2. Increase propagandistic frequency, extend impact and change people's mentality. Hospital should provide and teach professional information to the customers. The best and easy way to achieve this purpose is using facts to make customers believe it. Actions speak louder than words. Hospital can provide annual reports and cases of Acupuncture Treatment to customers.

3. According to real situation, the customers have little or no understanding of Acupuncture Treatment. They did not recognize the special curative effect and added effect of Acupuncture Treatment. Hospital should provide information to customer that acupuncture-therapy is a relaxing healing method, it's also good for relax, banting and beauty to open the new market.

4. Creating new and comfort environment for customers. The hospital should guarantee the customers' privacy and provide comfortable and secure environment and medical care. Ex. Set up separate cure room and provide high technology facilities.

5. Hospital should improve the performance and provide customers added value services to satisfy customers' complaints. Ex. Shorten waiting time, smile service, improve cure condition, counseling for free charge, and health lecture.

6.3 Further Research

Upon the current efficiency treatment level in this hospital, the hospital should improve their performance and increase added value to current patients. Nowadays, hospitals should focus on the service quality and set up standard service system. The main purpose of renovation is to guarantee service level and makes it faster, secure, simple, convenient, and reliable. At the moment, hospital should also provide lectures on health and health related information and cases and reports to customers to make them know it exactly. The hospital should concentrate on introducing Acupuncture Treatment to people for the future.

To those who want to study Acupuncture Treatment at Shanghai First People's Hospital, this research could be beneficial. Further research should focus on the group with high incomes to find out the real reasons why they do not use Acupuncture Treatment as often as with low income. The age group between 20 years to 30 years, should be focused on to analyze the demand of the target in future research.

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THE QUESTIONNAIRE TO MEASURE MEDICAL SERVICE QUALITY IN ACUPUNCTURE DEPARTMENTAT SHANGHAI FIRST PEOPLE'S HOSPITAL IN THE PEOPLE'S REPUBLIC OF CHINA

I am a MBA student of Assumption University in Thailand. I am doing thesis research. This questionnaire is an instrument of the research study, which has been designed to collect data for the research on patients' expectations and perceptions of medical service quality. This questionnaire concerning with the acupuncture treatment in Shanghai First People's Hospital will be distributed and colleted in front of Acupuncture Department. All of the questions consisted of three parts which are as follows:

   I) Demographic Profile

   2) Expectations Measuring

   3) Perception Measuring

Part 1: Demographic Profile of Respondents.

(Please mark √ your answer)

Identification: ☐ Patient   ☐ Visitor   ☐ Others

*If you are a patient, please continue the following. If you are not, please stop here, thank you very much!

1. Gender: ☐ Male   ☐ Female

2. Age: ☐ < 20 yrs   ☐ 21^-30 yrs   ☐ 31^-40 yrs
           ☐ 41～50 yrs   ☐ 51--60 yrs   ☐ 61 yrs >

3. Education   ☐ Below elementary   ☐ Elementary   ☐ College
   Level: ☐ Bachelor degree   ☐ Master degree   ☐ doctorate

4. Current   ☐ Student   ☐ Worker   ☐ Business employee
   Occupation: ☐ Business owner ☐ Private job   ☐ Retiree

5. Monthly   ☐ < 1,000RMB   ☐ 1,001～2,000RMB ☐ 2,001～3,000RMB
   Income: ☐ 3,001～4,000RMB ☐ 4,001～5,000RMB ☐ 5,001RMB >

Part 2: Expectation

Directions: Please complete all requirements of the following questions that indicate your own attitude towards each statement. Please mark [√] 1 2 3 4 5 6 7 8 9 scale which corresponds to your expectation in each statement that best describe your feeling before your experience with the acupuncture treatment here.

Strongly Disagree .... Strongly Agree
[SD] 1   2   3   4   5   6   7   8   9 [SA]

No	1. TANGIBILITY - Facilities & Medical staff	SD								SA
Q1	Up-to-date equipment & technology	1	2	3	4	5	6	7	8	9
Q2	Physical facilities visually appealing, clean and hygienic	1	2	3	4	5	6	7	8	9
Q3	Flexible arrangements, equipped with good ventilation and lighting	1	2	3	4	5	6	7	8	9
Q4	Medical staff well dressed and appear neat with decent manners.	1	2	3	4	5	6	7	8	9

No	2. RELIABILITY - Ability to provide good service	SD								SA
Q5	Reliable check-up, proper treatment	1	2	3	4	5	6	7	8	9
Q6	When patient have problems, medical staff are sympathetic and willing to help	1	2	3	4	5	6	7	8	9
Q7	Medical staff provide medical trusty worthly and reliable medical service	1	2	3	4	5	6	7	8	9
Q8	Medical staff provide their medical service by appointment, go their rounds on time	1	2	3	4	5	6	7	8	9
Q9	Medical records are made accurately, to keep the patient's record	1	2	3	4	5	6	7	8	9

No	3. RESPONSIVENESS - Medical staff willingness to work	SD								SA
Q10	Provide medical service on time	1	2	3	4	5	6	7	8	9
Q11	Provide medical service for emergency patients in time	1	2	3	4	5	6	7	8	9
Q12	Medical staff are always willing to help patients	1	2	3	4	5	6	7	8	9
Q13	Medical staff are unable to respond to the patient's request promptly because they are busy	1	2	3	4	5	6	7	8	9

No	4. ASSURANCE - Medical staff's knowledge & attitude	SD								SA
Q14	Acupuncture department and its medical staff are trustworthy	1	2	3	4	5	6	7	8	9
Q15	Medical treatment here is safe	1	2	3	4	5	6	7	8	9
Q16	Attentiveness in protecting patient's privacy	1	2	3	4	5	6	7	8	9
Q17	Medical ethics & manner, good service attitude	1	2	3	4	5	6	7	8	9
Q18	Medical staff with abundant medical knowledge	1	2	3	4	5	6	7	8	9

No	5. EMPATHY - Easy to approach, unassuming, know patient's needs	SD								SA
Q19	Individual medical service circumstances	1	2	3	4	5	6	7	8	9
Q20	Understand patient's needs	1	2	3	4	5	6	7	8	9
Q21	Make arrangements for convenient consultation hours to satisfy the needs of different patients	1	2	3	4	5	6	7	8	9
Q22	Flexible arrangement for each department to reduce the time the patient runs from one department to another	1	2	3	4	5	6	7	8	9

Part 3: Perception

Directions: Please complete all requirements of the following questions that indicate your own attitude towards each statement. Please mark [√]1 2 3 4 5 6 7 8 9 scale which corresponds to your perception in each statement that best describe your feeling after you received the acupuncture treatment here.

	Strongly Disagree .... Strongly Agree									
	[SD] 1	2	3	4	5	6	7	8	9 [SA]	

No	1. TANGIBILITY - Facilities & Medical staff	SD								SA
Q1	Up-to-date equipment & technology	1	2	3	4	5	6	7	8	9
Q2	Physical facilities visually appealing, clean and hygienic	1	2	3	4	5	6	7	8	9
Q3	Flexible arrangements, equipped with good ventilation and lighting	1	2	3	4	5	6	7	8	9
Q4	Medical staff well dressed and appear neat with decent manners.	1	2	3	4	5	6	7	8	9

No	2. RELIABILITY - Ability to provide good service	SD								SA
Q5	Reliable check-up, proper treatment	1	2	3	4	5	6	7	8	9
Q6	When patient have problems, medical staff are sympathetic and willing to help	1	2	3	4	5	6	7	8	9
Q7	Medical staff provide medical trusty worthly and reliable medical service	1	2	3	4	5	6	7	8	9
Q8	Medical staff provide their medical service by appointment, go their rounds on time	1	2	3	4	5	6	7	8	9
Q9	Medical records are made accurately, to keep the patient's record	1	2	3	4	5	6	7	8	9

No	3. RESPONSIVENESS - Medical staff willingness to work	SD								SA
Q10	Provide medical service on time	1	2	3	4	5	6	7	8	9
Q11	Provide medical service for emergency patients in time	1	2	3	4	5	6	7	8	9
Q12	Medical staff are always willing to help patients	1	2	3	4	5	6	7	8	9
Q13	Medical staff are unable to respond to the patient's request promptly because they are busy	1	2	3	4	5	6	7	8	9

No	4. ASSURANCE - Medical staff's knowledge & attitude	SD								SA
Q14	Acupuncture department and its medical staff are trustworthy	1	2	3	4	5	6	7	8	9
Q15	Medical treatment here is safe	1	2	3	4	5	6	7	8	9
Q16	Attentiveness in protecting patient's privacy	1	2	3	4	5	6	7	8	9
Q17	Medical ethics & manner, good service attitude	1	2	3	4	5	6	7	8	9
Q18	Medical staff with abundant medical knowledge	1	2	3	4	5	6	7	8	9

No	5. EMPATHY - Easy to approach, unassuming, know patient's needs	SD								SA
Q19	Individual medical service circumstances	1	2	3	4	5	6	7	8	9
Q20	Understand patient's needs	1	2	3	4	5	6	7	8	9
Q21	Make arrangements for convenient consultation hours to satisfy the needs of different patients	1	2	3	4	5	6	7	8	9
Q22	Flexible arrangement for each department to reduce the time the patient runs from one department to another	1	2	3	4	5	6	7	8	9

于上海市第一 A　　院针灸治疗的医疗服务质量的测量之调查问

　　我是泰国曼谷易三仓　　　的商业管理硕士，

对于医疗服务质量的期望和意见的研究而设计的。本调查问卷与上海市第　人民医院针灸治疗

1.

2.　测量预期

3.

的人口资料统计

（请　方框内打勾 J　或准确的填入以下个人信息）

身份鉴别：☐ 病人　　　　　　　　　☐ 其它

如果你是病人，请继续下面的问卷；　——

6.　　　　　　　　　　　　　☐◂女

7.　——　　20　以下　　　☐ 21-30 岁　　　☐ 31-40 岁
　　　　☐ 41-50 岁　　　☐ 51-60 岁　　　☐ 61 岁以上

8.　教育程度：　☐ EMT　　　　　　中　　　　O X
　　　　　　　　☐ *4　　　　　☐ 研究生　　　☐ 博士以上

9.　您的职业：　☐ 在校　生　　　☐ 工人　　　　☐
　　　　　　　　☐ 私有产Ⅳ者　　☐　　　　　　☐ 离退休人员

10.　您的月收入：☐ 1,000 元以下　☐ 1,001～2,000 元　☐ 2,001-3,000 元
　　　　　　　　☐ 3,001～4,000 元　☐ 4,001～5,000 元　☐ 5,001 元以上

第二部分：<u>MW</u>

最接近的选项 1 — 9 。

此部 询查问卷所选择的程度以 1 Ti 9 逐渐递增，1 示强烈 同意，9

）

强 !不同意							... 强烈同意
1	2	3	4	5	6	7	8	9

	1. 切实性－设备! 医务人员	.....................强烈同意
Q1	先进的医疗设备 术	1 2 3 4 5 6 7 8 9
Q2	医疗设备与器材外观良好， _	1 2 3 4 5 6 7 8 9
Q3	安排合理，通风采光	1 2 3 4 5 6 7 8 9
Q4	医务人员着装干净整洁，举止优雅	1 2 3 4 5 6 7 8 9

编号	2. 可	提供优质服务的能力	强烈不同意.....................强烈同意
Q5	合理检查 治疗	1 2 3 4 5 6 7 8 9
Q6	病人有困难时，富有.	1 2 3 4 5 6 7 8 9
Q7	医师及其提供的服务是可靠的、可信任的	1 2 3 4 5 6 7 8 9
Q8	按约 时间提供医疗服 准 出诊	1 2 3 4 5 6 7 8 9
Q9	准确记 病史，妥善保存病人的医疗资料	1 2 3 4 5 6 7 8 9

编号	3. 响应性－医务人员 4 工作积极性	强烈不 同意.....................强烈同意
Q10	不迟到早退	1 2 3 4 5 6 7 8 9
Q11	对急症患者及时提供医疗服务	1 2 3 4 5 6 7 8 9
Q12	乐于帮助患者	1 2 3 4 5 6 7 8 9
Q13	医务人员不会 太忙而无法及时响应病人 的要求	1 2 3 4 5 6 7 8 9

编号	4. 可信性 医务人 知识 态度	烈不同意.....................强烈同意
Q14	斗室及医务人 值得信赖	1 2 3 4 5 6 7 8 9
Q15	在此接受医疗服务是安 的	1 2 3 4 5 6 7 8 9
Q16	注意保护病人隐私	1 2 3 4 5 6 7 8 9
Q17	尚的医德医风、良好的服务态度	1 2 3 4 5 6 7 8 9
Q18	医务人员 医疗知识	1 2 3 4 5 6 7 8 9

编号	5. 移情性－平易近人、了解病人需求	强烈不司意.....................强烈同意
Q19	个性化（因病人而异）的医疗服务	1 2 3 4 5 6 7 8 9
Q20	了解患者的需求	1 2 3 4 5 6 7 8 9
	理、方便的诊疗时间安排， 同患者	1 2 3 4 5 6 7 8 9
Q22	减少患者往返 弁波	1 2 3 4 5 6 7 8 9

请在　　院钅灸治疗后根 IM`)O¦⁄₉0151., 　　　　ilRZENAM 1 9 .

此部分 调查问卷所记 　　　以 1 Ｔ 9 逐渐递增，1 表示强烈不司意，9 表示强烈同

moo ）

强烈	强烈同意
1 2 3 4 5 6 7 8 9	

编号	1.　　　　　医务人员	强烈不同意·················强烈同意
91	先进的医疗设备与技术	1 2 3 4 5 6 7 8 9
Q2	医疗设备与器材外观良好，干净　　　　染	1 2 3 4 5 6 7 8 9
Q3	诊疗场所空间安排合理　通风采光良好	1 2 3 4 5 6 7 8 9
Q4	务人员着装干净整洁，举止优雅	1 2 3 4 5 6 7 8 9

编号	2. 可靠性　提供优质服务的能力	强烈不同意·················强烈同意
95	治疗	1 2 3 4 5 6 7 8 9
Q6	病人有困难时，富有同情心	1 2 3 4 5 6 7 8 9
	可信任的	1 2 3 4 5 6 7 8 9
98	按约　时　提供医疗服务，　　出	1 2 3 4 5 6 7 8 9
Q9	准确记　病史，_	1 2 3 4 5 6 7 8 9

编号	3. 响应性　医务人员的工作积极性	强烈不同意·················强烈同意
Q10	不迟到早退	1 2 3 4 5 6 7 8 9
911	对急症患者及时提供医疗服务	1 2 3 4 5 6 7 8 9
Q12	总是乐于帮助患者	1 2 3 4 5 6 7 8 9
913	医务人员了会因为太忙而无法及时响应病人的要求	1 2 3 4 5 6 7 8 9

编号	4. 可信性　医务人员的知识、态度	强烈不同意·················强烈同意
Q14	该科室及医务人员值得信赖	1 2 3 4 5 6 7 8 9
915		1 2 3 4 5 6 7 8 9
916	注意保护病人隐私	1 2 3 4 5 6 7 8 9
917	高尚的医德医风、　　　　务态度	1 2 3 4 5 6 7 8 9
Q18	医务人员有丰富的医疗知识	1 2 3 4 5 6 7 8 9

编号	5. 移情性　平易近人、了解病人需求	强烈不同意·················强烈同意
919	个性化（因病人　　）的医疗服务	1 2 3 4 5 6 7 8 9
Q20	了解患者的需求	1 2 3 4 5 6 7 8 9
Q21	满足不同患者　自　求	1 2 3 4 5 6 7 8 9
Q22	合理　　　疗场所安排，减少　者往返奔波	1 2 3 4 5 6 7 8 9

RELIABILITY ANALYSIS - SCALE (ALPHA)

1. by Tangibility

N of Cases = 30.0

Expectation part:

Correlation Matrix

	ES1	ES2	ES3	ES4
ES1	1.0000			
ES2	.5595	1.0000		
ES3	.5393	.3867	1.0000	
ES4	.7186	.4110	.7778	1.0000

Analysis of Variance

Source of Variation	Sum of Sq.	DF	Mean Square	Q	Prob.
Between People	118.0750	29	4.0716		
Within People	70.2500	90	.7806		
Between Measures	13.7583	3	4.5861	17.6263	.0005
Residual	56.4917	87	.6493		
Total	188.3250	119	1.5826		
Grand Mean	8.9250				

Reliability Coefficients 4 items
Alpha = .8405   Standardized item alpha = .8388

Perception part:

Correlation Matrix

	PS1	PS2	PS3	PS4
PS1	1.0000			
PS2	.4584	1.0000		
PS3	.7603	.5222	1.0000	
PS4	.5219	.3705	.8114	1.0000

Analysis of Variance

Source of Variation	Sum of Sq.	DF	Mean Square	Q	Prob.
Between People	203.9667	29	7.0333		
Within People	96.0000	90	1.0667		
Between Measures	1.6333	3	.5444	1.5312	.6751
Residual	94.3667	87	1.0847		
Total	299.9667	119	2.5207		
Grand Mean	7.4833				

Reliability Coefficients 4 items
Alpha = .8458   Standardized item alpha = .8436

RELIABILITY ANALYSIS - SCALE (ALPHA)

2. by Reliability

N of Cases = 30.0

Expectation part:

Correlation Matrix

	ES5	ES6	ES7	ES8	ES9
ES5	1.0000				
ES6	.4392	1.0000			
ES7	.6975	.4852	1.0000		
ES8	.5059	.3616	.4593	1.0000	
ES9	.2972	.3078	.3224	.6030	1.0000

Analysis of Variance

Source of Variation	Sum of Sq.	DF	Mean Square	Q	Prob.
Between People	69.4400	29	2.3945		
Within People	60.4000	120	.5033		
Between Measures	4.4400	4	1.1100	8.8212	.0657
Residual	55.9600	116	.4824		
Total	129.8400	149	.8714		
Grand Mean	9.1200				

Reliability Coefficients 5 items
Alpha = .7985   Standardized item alpha = .8022

Perception part:

Correlation Matrix

	PS5	PS6	PS7	PS8	PS9
PS5	1.0000				
PS6	.7006	1.0000			
PS7	.7799	.7097	1.0000		
PS8	.5553	.8280	.5250	1.0000	
PS9	.6670	.6316	.8193	.6041	1.0000

Analysis of Variance

Source of Variation	Sum of Sq.	DF	Mean Square	Q	Prob.
Between People	385.5733	29	13.2956		
Within People	153.6000	120	1.2800		
Between Measures	17.9067	4	4.4767	13.9896	.0073
Residual	135.6933	116	1.1698		
Total	539.1733	149	3.6186		
Grand Mean	7.5467				

Reliability Coefficients 5 items
Alpha = .9120   Standardized item alpha = .9147

RELIABILITY ANALYSIS - SCALE (ALPHA)

3. by Responsiveness

N of Cases = 30.0

Expectation part:

Correlation Matrix

	ES10	ES11	ES12	ES13
ES10	1.0000			
ES11	.4383	1.0000		
ES12	.4102	.2971	1.0000	
ES13	.3159	.2626	.7232	1.0000

Analysis of Variance

Source of Variation	Sum of Sq.	DF	Mean Square	Q	Prob.
Between People	64.5750	29	2.2267		
Within People	73.7500	90	.8194		
Between Measures	22.2917	3	7.4306	27.2034	.0000
Residual	51.4583	87	.5915		
Total	138.3250	119	1.1624		
Grand Mean	8.9250				

Reliability Coefficients 4 items
Alpha = .7344   Standardized item alpha = .7337

Perception part:

Correlation Matrix

	PS10	PS11	PS12	PS13
PS10	1.0000			
PS11	.2832	1.0000		
PS12	.4021	.8047	1.0000	
PS13	.1396	.8086	.7001	1.0000

Analysis of Variance

Source of Variation	Sum of Sq.	DF	Mean Square	Q	Prob.
Between People	269.3667	29	9.2885		
Within People	159.0000	90	1.7667		
Between Measures	22.7667	3	7.5889	12.8868	.0049
Residual	136.2333	87	1.5659		
Total	428.3667	119	3.5997		
Grand Mean	7.2167				

Reliability Coefficients 4 items
Alpha = .8314   Standardized item alpha = .8144

RELIABILITY ANALYSIS - SCALE (ALPHA)

4. by Assurance

N of Cases = 30.0

Expectation part:

Correlation Matrix

	ES14	ES15	ES16	ES17	ES18
ES14	1.0000				
ES15	.7205	1.0000			
ES16	.5316	.5488	1.0000		
ES17	.7872	.6518	.6442	1.0000	
ES18	.4989	.4872	.6963	.5948	1.0000

Analysis of Variance

Source of Variation	Sum of Sq.	DF	Mean Square	Q	Prob.
Between People	111.7333	29	3.8529		
Within People	61.6000	120	.5133		
Between Measures	8.2667	4	2.0667	16.1039	.0029
Residual	53.3333	116	.4598		
Total	173.3333	149	1.1633		
Grand Mean	9.1333				

Reliability Coefficients 5 items
Alpha = .8807   Standardized item alpha = .8892

Perception part:

Correlation Matrix

	PS14	PS15	PS16	PS17	PS18
PS14	1.0000				
PS15	.7252	1.0000			
PS16	.7392	.7847	1.0000		
PS17	.6604	.5752	.5256	1.0000	
PS18	.8142	.6374	.6907	.4379	1.0000

Analysis of Variance

Source of Variation	Sum of Sq.	DF	Mean Square	Q	Prob.
Between People	348.1933	29	12.0067		
Within People	158.0000	120	1.3167		
Between Measures	11.0933	4	2.7733	8.4253	.0772
Residual	146.9067	116	1.2664		
Total	506.1933	149	3.3973		
Grand Mean	7.9267				

Reliability Coefficients 5 items
Alpha = .8945   Standardized item alpha = .9062

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RELIABILITY ANALYSIS - SCALE (ALPHA)

5. by Empathy

N of Cases = 30.0

Expectation part:

Correlation Matrix

	ES19	ES20	ES21	ES22
ES19	1.0000			
ES20	.6812	1.0000		
ES21	.6820	.8203	1.0000	
ES22	.7045	.6715	.6206	1.0000

Analysis of Variance

Source of Variation	Sum of Sq.	DF	Mean Square	Q	Prob.
Between People	163.2417	29	5.6290		
Within People	51.7500	90	.5750		
Between Measures	3.2917	3	1.0972	5.7246	.1258
Residual	48.4583	87	.5570		
Total	214.9917	119	1.8067		
Grand Mean	8.5917				

Reliability Coefficients 4 items
Alpha = .9010   Standardized item alpha = .9018

Perception part:

Correlation Matrix

	PS19	PS20	PS21	PS22
PS19	1.0000			
PS20	.7003	1.0000		
PS21	.4584	.6194	1.0000	
PS22	.7653	.6812	.4628	1.0000

Analysis of Variance

Source of Variation	Sum of Sq.	DF	Mean Square	Q	Prob.
Between People	319.0750	29	11.0026		
Within People	134.2500	90	1.4917		
Between Measures	5.2917	3	1.7639	3.5475	.3147
Residual	128.9583	87	1.4823		
Total	453.3250	119	3.8095		
Grand Mean	6.8250				

Reliability Coefficients 4 items
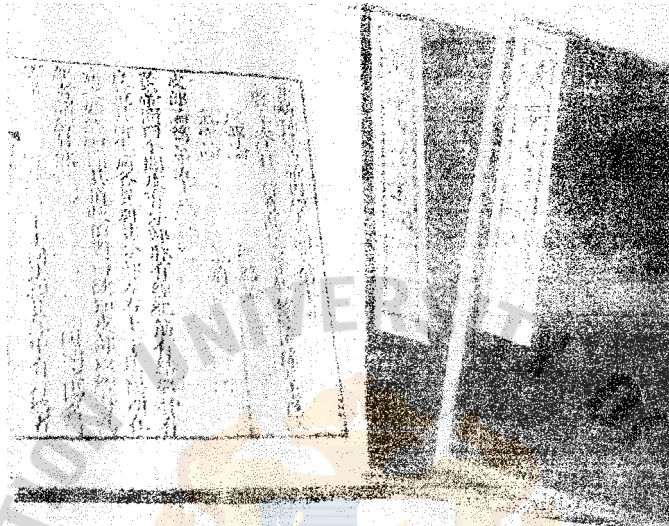*Alpha = .8653*   Standardized item alpha = .8645

APPENDIX C - 1 BRONZE FIGURE OF MING DYNASTY

This bronze figure showing acupuncture points is a reproduction of one cast in 1443 A.D., during the Ming Dynasty.
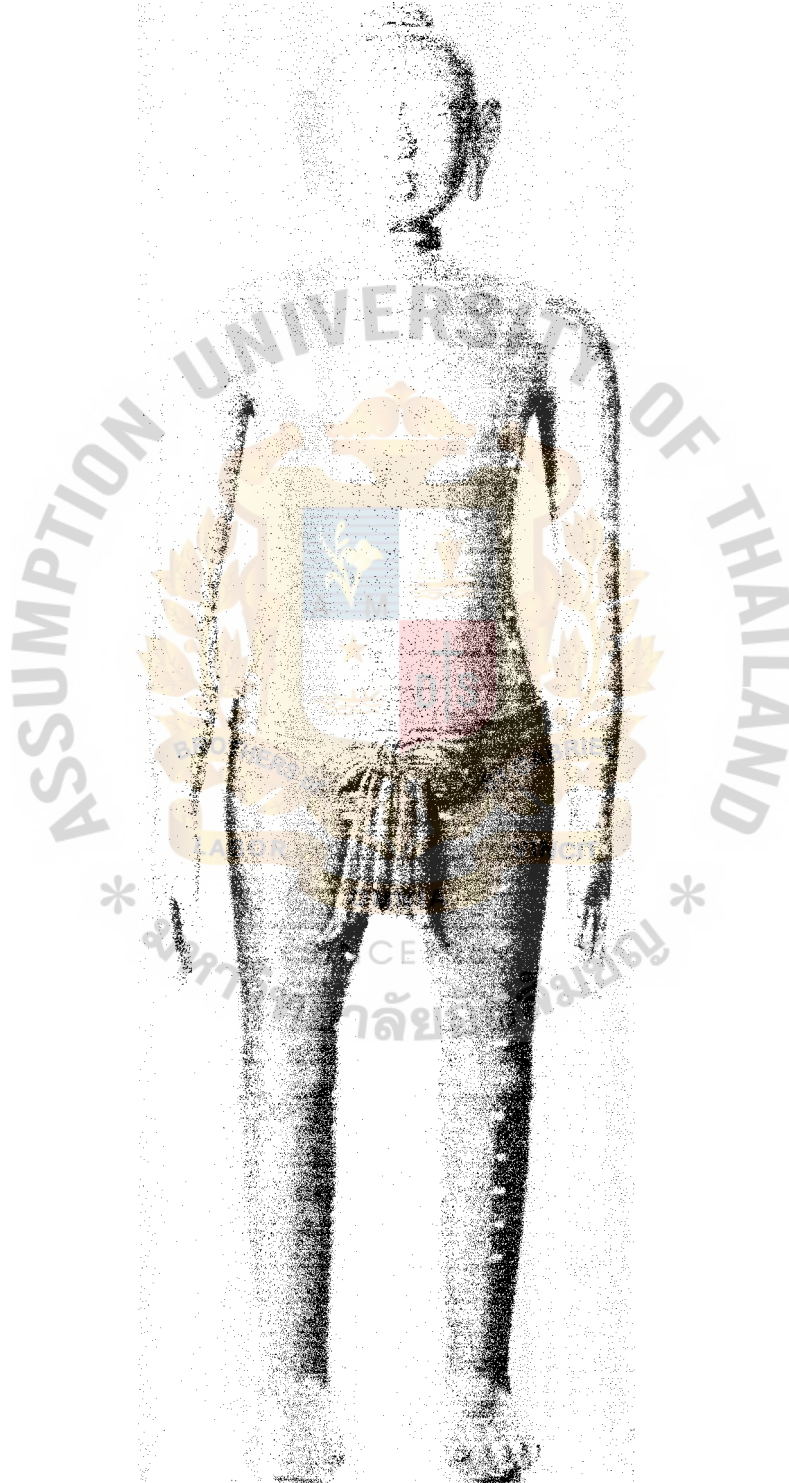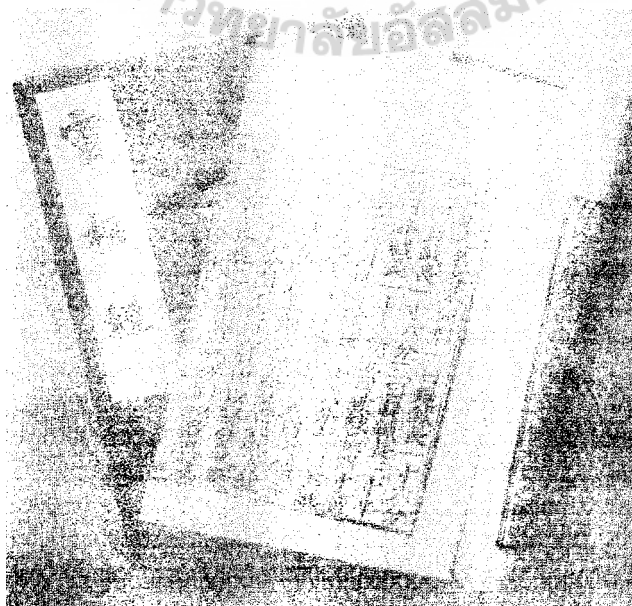
APPENDIX C - 2   **HUANGDI NEIJING**

Huangdi Neijing (Canon of Medicine), compiled in 500-300 B.C., is the earliest medical book in China in which acupuncture is described.

APPENDIX C - 3   **LINGSHUJING**

Lingshujing, also known as Canon of Acupuncture, is a part of Huangdi Neijing. It contains the earliest records of using nine different acupuncture instruments, the "Nine Needles".

APPENDIX C - 4 **NINE KINDS OF NEEDLES**

In Zhenjiu Daqcheng (Compendium of Acupuncture and Moxibustion) Compiled in 1601, nine kinds of needles and their clinical applications are recorded.

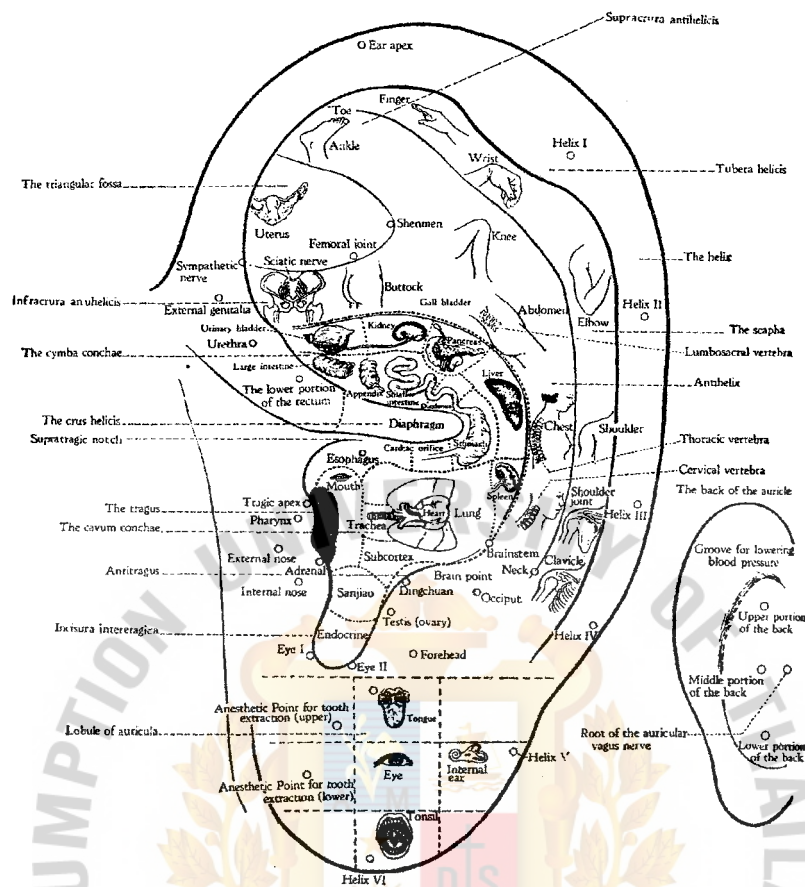APPENDIX C - 5 **CUTANEOUS AND INTRADERMAL NEEDLES**

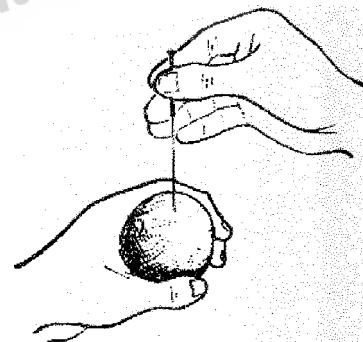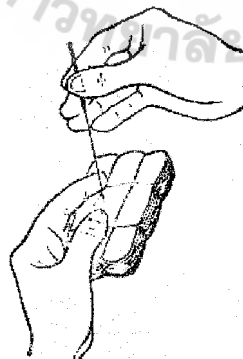| "seven-star" needle | "Plum-blossom" needle | Thumbtack type | Grain-like type |

Cutaneous needle **Intradermal needle**

APPENDIX C -6 DISTRIBUTION OF AURICULAR POINTS

APPENDIX C -7 PRACTICE NEEDLING

Handle

Root

Body

Tip

| Filiform needle. | Practicing needling on folder paper. | Practicing needling on cotton cushion. |

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