



NEAR EAST UNIVERSITY  
GRADUATE SCHOOL OF SOCIAL SCIENCES  
BUSINESS ADMINISTRATION PROGRAMME

**TOTAL QUALITY MANAGEMENT IN HOSPITALS AND  
THE EFFECT OF INNOVATION ON PERFORMANCE:  
EXAMPLE OF ANKARA PROVINCE**

ASENA TUĞBA EVREN SUBAŞI

PHD THESIS

NICOSIA  
2021

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PhD THESIS

THESIS SUPERVISOR  
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NICOSIA  
2021

## ACCEPTANCE/APPROVAL

This study titled “**Total Quality Management In Hospitals and The Effect of Innovation on Performance**” prepared by Asena Tuğba EVREN SUBAŞI ” was considered as successful as a result of the defense examination conducted on the date of 04/01/2021 and accepted as Doctoral Thesis by our Jury.

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## DECLARATION

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“Education is a beneficial and fun journey that illuminates our world with its inexhaustible light.”

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## ABSTRACT

### **TOTAL QUALITY MANAGEMENT IN HOSPITALS AND THE EFFECT OF INNOVATION ON PERFORMANCE: EXAMPLE OF ANKARA PROVINCE**

In this study, it was aimed to determine the effects of total quality management practices and innovation levels of hospitals on hospital performance based on the opinions of individuals who are managerial positions in private hospitals operating in Ankara. In order to do this, the questionnaire study which will be performed with hospital managers, is evaluated whether the change in the process makes a significant contribution to performance. relational screening model, which is one of the quantitative research methods, was used. The universe of the research is the chief physician, deputy chief physician, hospital manager, deputy hospital manager and hospital quality coordinator of 31 private hospitals operating in Ankara in 2018. As the sampling selection method, one of the purposeful sampling methods was chosen easily. it is aimed to reach all the units in the universe. There are 155 managers with these qualifications in total according to the number of administrative groups and hospitals of the research. If the entire universe is planned to be reached, 137 managers agreed to contribute to the study. Accordingly, the sample of the study represents the universe at the rate of 88.3%.

In the research, a questionnaire form was used as a data collection tool. Face to face interviews were made with the units in the sample group of the research. The questionnaire form used in the research consists of 4 parts. SPSS 20 package programs were used for statistical analysis of the data. The distribution of demographic and working life characteristics of hospital managers participating in the research are shown in percentage and frequency. Validity and reliability studies of the scales were performed before the analysis of the scores obtained from the scales. the degree and direction of the relationship between total quality management status and innovation attitude were analyzed by Pearson correlation coefficient. simple and multiple

regression analysis was applied to determine the impact of TQM and Innovation on hospital performance. Findings obtained as a result of the research were taken into consideration at the 95% confidence level.

In the research, positive and statistically significant relationships were found between TQM practices of private hospitals and their perspectives on innovation. Accordingly, within the scope of TQM practices, a moderate level of relationship was determined between the innovation attitudes of private hospitals and Management Leadership approaches, Decision Making approaches, and Supplier Relation attitudes. In this study, innovation processes of private hospitals have been found to have an impact on their organizational performance. It was concluded from the TQM applications that only Continuous Improvement, Employee Participation and Patient Focus approaches affect the performance of private hospitals.

**Keywords:** Total Quality Management, Innovation, Hospital Performance.

## ÖZ

### **HASTANELERDE TOPLAM KALİTE YÖNETİMİ VE İNOVASYONUN PERFORMANS ÜZERİNDEKİ ETKİSİ: ANKARA İLİ ÖRNEĞİ**

Bu çalışmada Ankara'da faaliyet gösteren özel hastanelerde yönetici pozisyonu olan bireylerin görüşlerine göre hastanelerin toplam kalite yönetimi uygulamalarının ve inovasyon düzeylerinin hastane performansı üzerine etkilerinin belirlenmesi amaçlanmıştır. Bu amaçla hastane yöneticileriyle yapılan anket çalışması yapılmış ve tedarik zinciri süreçlerindeki değişikliğin performansa önemli bir katkı sağlayıp sağlamadığı değerlendirilmiştir. Araştırmada nicel araştırma yöntemlerinden ilişkisel tarama modeli olan kullanılmıştır. Araştırmanın evreni, 2018 yılında Ankara'da faaliyet gösteren 31 özel hastanenin başhekim, başhekim yardımcısı, hastane müdürü, hastane müdür yardımcısı ve hastane kalite koordinatörü oluşturmaktadır. Örneklem seçimi yöntemi olarak, amaçlı örneklem yöntemlerinden biri olan kolayda örneklem yöntemi seçilmiştir. Evrendeki tüm birimlere ulaşılması hedeflenmiş olup, araştırmanın idari grup ve hastane sayısına göre toplamda bu niteliklere sahip 155 yönetici bulunmaktadır. Bu yöneticilerin tamamına ulaşılması planlansa da 137 yönetici çalışmaya katkıda bulunmayı kabul etti. Buna göre, çalışmanın örneği evrenin % 88,3 oranında temsil etmektedir.

Araştırmada veri toplama aracı olarak anket formu kullanılmıştır. Araştırmanın örneklem grubundaki birimlerle yüz yüze görüşmeler yapılmıştır. Araştırmada kullanılan anket formu 4 bölümden oluşmaktadır. SPSS 20 paket programı verilerin istatistiksel analizi için kullanılmıştır. Araştırmaya katılan hastane yöneticilerinin demografik ve çalışma hayatı ile ilgili özelliklerinin dağılımı yüzde ve frekans olarak gösterilmiştir. Ölçeklerin geçerlik ve güvenirlik çalışmaları ölçeklerden alınan puanların analizinden önce yapılmıştır. Toplam kalite yönetimi ile inovasyon tutumu arasındaki ilişkinin derecesi ve yönü pearson korelasyon katsayısı ile analiz edilmiştir. TKY ve inovasyonun hastane performansı üzerindeki etkisini belirlemek için basit ve çoklu regresyon analizi uygulanmıştır. Araştırma sonucunda elde



edilen bulgular% 95 güven düzeyinde dikkate alınmıştır.

Araştırmada, özel hastanelerin TKY uygulamaları ile yenilik konusundaki bakış açıları arasında pozitif ve istatistiksel olarak anlamlı ilişkiler bulunmuştur. Buna göre TKY uygulamaları kapsamında özel hastanelerin inovasyon tutumları ile Yönetim Liderliği yaklaşımları, Karar Verme yaklaşımları ve Tedarikçi İlişkileri tutumları arasında orta düzeyde bir ilişki belirlenmiştir. Ayrıca, özel hastanelerin inovasyon süreçlerinin örgütsel performansları üzerinde etkili olduğu bulunmuştur. TKY uygulamalarından özel hastanelerin performansını sadece Sürekli İyileştirme, Çalışan Katılımı ve Hasta Odaklama yaklaşımlarının etkilediği sonucuna varılmıştır.

**Anahtar Kelimeler:** Toplam Kalite Yönetimi, İnovasyon, Hastane Performansı.

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## ABBREVIATIONS

CI	: Continuous Improvement
DM	: Decision Making
EP	: Employee Participation
HPS	: Hospital Performance
IS	: Innovation Scale
ML	: Management Leadership
P	: Process
PF	: Patient Focus
SR	: Suppliers Relation
TQM	: Total Quality Management

## **CHAPTER 1**

### **INTRODUCTION**

With each passing day, with the developing technology, there is a constant diversity in the needs of societies that have changes in their social and economic structure. The what extent to that the needs are met and adequate bring to mind the phenomenon of quality. While the concept of quality is of great importance in all sectors, it is in a much more important position in the health sector. Focusing on their needs and desires is one of the most important priorities for hospitals in terms of ensuring the satisfaction of patients. These needs and demands should be made patient-oriented within the scope of preventive or treatment-oriented services to be provided.

In this study, it was aimed to determine the effects of total quality management practices and innovation levels of hospitals on hospital performance based on the opinions of individuals who are managerial positions in private hospitals operating in Ankara. TQM requires that change be based on the requirements of the client not the values of suppliers. It demands the significant involvement of all human resource department and a speed and thoughtful reaction from top management to advices made by participating workers. TQM, first occurred in the United States and successfully implemented in Japan is clearly pick up serious attention by U.S. health service organizations as they try to upgrade quality with fewer resources (McLaughlin & Kaluzny, 1990).

TQM is a procedure increasingly used by health centres to develop the quality and results of care. It is determined as the systematic participation of health care teams in classify the fundamental causes of unneeded variation in processes and results of care and taking retorative and preventative action



with the purpose of persistent quality improvement in patient care deliverance (Shortell, et al., 2000). TQM would provide experimental controls and random placement of subjects and problems, permitting the TQM approach to problem solving to succeed or not with controls (Lammers, Cretin, Gilman, & Calingo, 1996).

TQM aimed at meeting customer satisfaction which is consolidated system of persistent quality improvement. The aim of the TQM is the elimination of the faults by remove the occasions of the faults. TQM is proactive in nature, its purpose is to build quality goods and services into the design of the process and then continuously to improve them (Short, 1995). According to Weiner et al. (2006) Quality improvement may demonstrate encouraging strategy for decrease errors and increase safety in hospitals.

Kunstand Lemmink showed in their study that different descriptive variables are connect to progress in business performance and TQM. Result of the study, there is a definite relation between progress in TQM and considered service quality by clients (Kunst & Lemmink, 2000).

Carter et all separate the concept of TQM into two dimensions that quality context and quality practices. They employ a structural equation modeling to show that quality context and quality patterns are definite model elements operating at the same time through the endogenous structure of TQM to directly affect hospital performance positively. In order to improve hospital performance, the quality activities of the organizations should be very wide and around. The authors also assess the potential moderate impacts of environmental uncertainty and hospital size on the relationship between quality management and performance (Carter, Lonial, & Raju, 2010).

Increasing life standards and expectations of higher service standards, which increase patient awareness, made it necessary for TQM applications to gain importance and to switch from the old administrative structures of health institutions to a new dynamic and innovative managerial model. All countries, including the leading countries in the world, continue to find new methods to provide better and higher quality service to patients in health services, to

develop preventive treatment methods and new treatment methods, to put them into practice and to apply them successfully, and to continuously improve and develop. Likewise, managers who are experts and professionals in the health sector have initiated innovation practices in the health sector by not only addressing health management but also the management of health institutions. (Harrington ve Voehl, 2010).

The primary goal of hospitals, which are health institutions, is to ensure that patients who come to hospital for treatment by experiencing health problems regain their health. The general and basic treatment methods to be given to the patient can be the same with competing healthcare enterprises. Healthcare enterprises aiming to get ahead of their competitors will only be able to succeed with the quality of the service they provide to patients. (Büyüközkan & Çiftçi, 2012). There is a positive relationship between customer satisfaction and higher service quality, customer loyalty and positive word of mouth. (Aneesh, Dileepal, & Abraham, 2014; Buttle, 1996; Shabbir & Malik, 2014). Healthcare enterprises that provide higher levels of customer satisfaction and loyalty will be able to earn higher income and be more successful in maintaining their presence in the market by maintaining a competitive advantage.

Alolayyan et al study and examine the carrying out of TQM and operational flexibility proportions in the direction of developing hospital performance and diminishing costs and errors. They propose a mathematical model make use of artificial neural systems. Results of the study give a very high degree of accuracy in relationship between TQM variables and operational elasticity dimensions to performance of hospital (Alolayyan, Ali, İdris, & İbrehem, 2011).

Given the ever-increasing competitive and dynamic environment in which hospitals operate and the need to improve hospital performance and quality of healthcare, researchers (Vituri DW, Évora YDM., 2015, Wright TA, Bonett DG.2002, Chang C-S, Chen S-Y, Lan Y-T. 2013) have conducted important research on improving the quality of healthcare services.

A study in Jordan State hospitals in 2015 that included 1290 hospital employees including more than 3 years' employees in 5 hospitals accredited by HCAC, and tested the effect and effectiveness of TQM in hospitals using multiple regression analysis has shown that the application of TQM principles in health institutions has a positive effect on overall hospital efficiency ( Abd El-Moneim A. El-Tohamy, Atef T Al Raoush,2015).

By using the databases including 25 related articles between 2005-2016 from Science Direct, EBSCO, MEDLINE, CINAHL and PubMed, Majdi M Alzoubi et al. (2019) pointed out a positive effect of TQM in the context of healthcare services, and interpreted as showing that TQM applications containing the determined main predictors would result in higher performance levels.

Based on the views of the managers in private hospitals in Ankara, the effect of TQM practices on patient focus and employee participation on hospital performance was investigated for 308 hospital managers and TQM applications were found to have a positive impact on hospital performance by playing an active role. (Evren Subasi and L, Ozturk, 2020)

Innovativeness, which is one of the main characters of industrial competition in the century where technological developments continue at a great pace, is necessary to gain competitive advantage by improving production and service performance at global standards. On the other hand, the increase in competition in global markets that bring innovation to the fore, and the reduction in the added value of developing technology, products and services emphasize the importance of innovation.

Hospitals, one of the basic institutions of the health sector, have to be innovative in order to meet the demands and needs of both patients, healthcare professionals and stakeholders in order to compete and continue their activities. (Boutros, 2007: 51). To give an example of innovation practices in health services; mercury thermometers, which measure temperature under the armpit, are not hygienic due to the fact that they can fall and break easily and they can be used by different people, which has led to the development of remote measuring thermometers as an innovation

(Sarioğlu, 2014:20).

Innovation can be defined as providing information resources and creating inter-institutional connections to improve the performance of organizations. Both growth and profitability are related to the innovative behavior of institutions. Innovations in the health sector are also supported by extensive interactions between other organizations and evolving networks. (Evangelista 2006; Littunen, Rissanen 2015).

Innovations in the field of health can directly affect human life and increase the quality of life (Ökem, 20011). On the other hand, mistakes in health services can adversely affect health and even cause loss of life. Therefore, innovations in the field of health are difficult to be accepted immediately. However, advances in medical science bring along the positive effects of taking preventive health measures, diagnosis, treatment, rehabilitation and improvement for patients, bringing innovation in health. In addition, innovation can be made not only in the treatment process, but also in health management and administrative processes, with applications and changes in support services and hotel management (Aksay ve Orhan, 2013)

In the Health Sector, the number of private hospitals has increased rapidly in recent years, however, in order to gain competitive advantage and to make them preferred for patients, patient relatives and even hospital staff, they have to increase the quality for all stakeholders and contribute to their performance values by increasing efficiency and productivity. The most important purpose of the emergence of innovation practices in the field of health is to increase the added value of the service provided by providing sustainable improvement that will create value for the patient (Tsai Y, 2013).

Innovation in Health Services handled in 3 main stages appears as product, process and structure. (Thune ve Mina, 2016) The product consists of the patient's payment for the service received. It is Process innovation that includes innovations in production or delivery management. It is the innovation in the ability to produce or deliver the product that can create a significant increase in the value offered to stakeholders. Another is structural

innovation, which reveals new business models that improve the internal and external structure and include infrastructural innovations. (Omachonu ve Einspruch, 2010).

TQM and innovation have the same purpose and importance in the performance of institutions in service delivery. TQM practices and innovation aim to bring together the goals and functions of the institution in a harmonious manner in order to increase the competitive advantage by providing customer satisfaction and it includes the management and all the personnel in the institution (Bon ve Mustafa, 2013).

In the study of Dy Bunpin et al. (2016) conducted to determine the innovative behavior of nurses, it was determined that nurses with higher education level had higher innovative behavior averages. In another study that supports this study, organizations should give importance to financial and moral support systems in order to continue their education in their planning to increase the innovative behavior of employees. (Şeyda Can,2020)

Empirical study using data from 168 service innovation projects in Dutch healthcare facilities shows that frontline employee involvement and top management engagement improve the quality of healthcare innovation. Yu Mu, Bart Bossink & Tsi Vinig (2017)

The relationship between innovation and performance in institutions providing health services in Portugal was investigated by factor analysis and hypothesis testing in the data obtained from 34 hospitals, and it was seen that service and process innovations affected operational performance. Maria R.A. Moreira ve arkadaşları (2017)

Tugba Gurcaylılar-Yenidogan and Safak Aksoy (2020), in their studies investigating the relationship between innovation and firm performance, found that while creating a diminishing effect on financial performance, they increased financial performance.

Accordingly, the study consists of 6 (six) chapters. In the first part, a general introduction to the study was made, information was given about the

purpose, importance, research problems and hypotheses of the study. In the second part, total quality management, TQM definitions are made and historical development is mentioned and explanations about the concepts are made. In this section, statements were made about the views and works of the gurus of the TQM, and information was provided on the continuous improvement, statistical quality control, quality assurance system and quality control circles that are linked to the TQM. Explanations were made about management leadership, training, supplier quality management, process management, product design, customer relations and employee relations, quality data and reporting from TQM applications. Then, explanations were made about the concepts of innovation, R&D, technology, product and process innovation performance. Information on hospital / enterprise performance and environmental dynamism was conveyed. In the third section, research models and hypotheses are given by considering the support of the literature, and the results obtained regarding the validity and reliability of the scales are presented. In the fourth section, the findings of the research are mentioned. In the fifth chapter, the findings are discussed. In the sixth section, after a general evaluation of the research results, recommendations were made to hospitals and researchers.

### **1.1 The Problem of the Research**

In the context of ensuring patient satisfaction, focusing on their needs, expectations and wishes is one of the most important priorities for hospitals. Within the scope of preventive or treatment-oriented services to be offered, these requirements and demands must be made entirely patient-oriented. According to Ölçüm Çetin and Yaman (2013), with the concept of quality becoming important for hospitals, both service level and content improve. As a result, a social satisfaction can be achieved with health services. Kumbiz et al. (2011) on the other hand, the importance of total quality in hospitals; He revealed that it is important in terms of both patient-employee communication and healthcare professionals' interaction, and patient-focused work positively affects the entire organization.

In hospitals, quality determines the quality, technical features and the way of providing this service. In this respect, the quality of hospitals is examined in the most clear form, in technical and artistic aspects. Technical aspect; determines whether the technology used and the working order are in line with modern medical science; the artistic aspect; It deals with the extent to which patients tend to meet their needs and how these needs are met in the provision of services (Kavuncubaşı, 2000).

The primary problem of the research is to determine the perspectives and levels of 31 private hospitals actively serving in Ankara province in 2018, to reveal the importance of innovation in service processes, to examine the impact of TQM practices and innovation processes of hospitals on hospital performance.

## **1.2 The Importance of Research**

The impact of globalization, the rapid advancement of technology, the increase in customer needs and expectations, the differences in competitive dimensions have led to the change of management forms, causing the development of TQM. The impact of TQM has shown itself more in recent years and it has been felt compulsory to be applied in all stages of the organization.

Since the service quality contributes to customer satisfaction, it has attracted value and interest in the private sector, which has noticed this before. TQM applications, which contribute to the increase of service quality, have gained importance by finding application areas first in the private sector and then in the public sector. In the same case, the understanding of innovation attracts a lot of attention as it is the reason for customer satisfaction and being preferred in the sector. The private sector has led the implementation of TQM Applications and innovation understanding that provides competitive advantage in the sector. However, due to the complex structure of public sector health services, it has been included in TQM late.

The ability of businesses to survive in the sector in which they operate depends on their level of competitiveness. The success of companies'

products from the design process until they reach their final customers will significantly affect their competitive possibilities. For this reason, the great change and development in the markets where the companies operate make environmental factors important for the companies. In order to provide competitive advantage, companies benefit from TQM, R&D and innovation. Environmental impacts are an important factor in these activities of companies. In order to provide competitive advantage, companies operating in the manufacturing field should attach importance to innovation through TQM practices. Studies have shown that TQM practices are effective on innovation performance. Innovation performance also positively affects business performance. For this reason, manufacturing companies should give the necessary importance to innovation with TQM applications in order to increase their performance. In this way, it will increase product and process innovation performances and ultimately increase the financial, customer and quality performances of its enterprises. According to the information obtained from the literature, in studies carried out in Turkey mainly the study of quality management in the service sector, the health sector was found to be necessary to carry out such a study. In studies conducted in Turkey, extensive as it is planned in this study did not find a study. For this reason, TQM applications that are important for the health sector; Examining the relationship between innovation performance, hospital performance and environmental dynamism variables as a whole is the most important feature of this study.

While it is characterized as whether the technology used and the working order are in parallel with modern medical science, technical quality in health service delivery in hospitals brings out the understanding of innovation.

It is inevitable for hospitals, which are health institutions, to provide services in line with the technology used and the variety of service delivery in line with modern medicine in order to be preferred and survive in the competitive environment with constantly increasing customer expectations and constantly developing technology.



### 1.3 The Aim of Research

With private health institutions and organizations taking part in the health sector in the 1980s, in the 1990s, the lack of desired efficiency and effectiveness in the public and private health sector and the increasing expenditures in the health sector brought the concept of Total Quality Management to the agenda by creating service plans and standards in the health sector. Finally, in 2007, the “Performance Management and Quality Improvement Department” was established within the Ministry of Health. (Turan ve Bozaykut, 2016)

The aim of the research is to establish the “Performance Management and Quality Improvement Department” within the Ministry of Health in 2007, and to demonstrate the total quality method practices and innovation understanding that have become widespread in the hospitals, and the contribution it has made to the performance of the hospitals from 2007 to 2016. For this purpose, in this research, the change of various annual statistical data published by OECD, TUIK and Ministry of Health will be examined. Besides, whether the change in the process makes a meaningful contribution to the performance or not, the survey will be evaluated with the hospital managers. For this purpose, a model to be developed for the data to be followed during the research was designed. In scientific studies, the model is defined as the abstract phenomenon that we cannot directly observe and the analytical frameworks used to simplify the understanding of the relationships between these phenomena. Models make patterns that are complex and difficult to comprehend more comprehensible. It is seen that the terms theory and model are confused with each other from time to time. But these two terms differ methodologically. Each model proposed in scientific research should be based on a theory or the findings of a previous scientific study (Gürbüz & Şahin, 2016). As a result of the study in which Yurtman (2010) examines whether total quality management has an effect on the evaluation of patients about the performance of physicians who examine them; observed that the quality and confidence factors increased the satisfaction of the patients about physicians. In the study of Kalmuk and Acar

(2018) on strategic orientations and the effect of innovation on hospital performance, it revealed that behavior and service and quality orientation positively affect hospital performance.

#### **1.4 Assumptions and Limitations**

Assumptions, also known as delinquency in social science researches, are the basic pre-assumptions accepted by the researcher and based on their research (Gürbüz & Şahin, 2016). In this research process, it was assumed that the people participating in the research on a voluntary basis respond sincerely to the questionnaire. It is assumed that there is no change in the salary and reward system used by the institutions in which the research was carried out.

In the analysis applied within the scope of the research,  $\alpha = 0.05$  was taken as the basis for the confidence interval. The survey-related data of the research is limited to the data to be collected from the managers working in private hospitals operating in Ankara province in 2018. Information about the participants in the study is limited to the questions in the Demographic Information Form prepared by the researcher. Data on the opinions of managers about total quality management practices are limited to the qualifications covered by the Total Quality Management Scale. Data on the opinions of managers about hospital performance are limited to the qualifications covered by the Hospital Performance Scale. Data on hospital administrators' views on the level of innovation of the hospital are limited to the qualifications covered by the Innovation Scale.

## **CHAPTER 2**

### **CONCEPTUAL AND THEORETICAL FRAMEWORK**

#### **2.1 Hospitals, Features and Classification of Health Services**

In this section, in order to provide a basis for the research section of the study; explanations in the literature on health services and the structure of hospitals have been expressed.

##### **2.1.2 Health Services**

The healthcare sector was created to bring public health to higher standards. Health services include maintaining the psychological and physical health of individuals and operation and maintenance in case of deterioration of health. The most important feature of the health sector is that it is not an institution that acts for profit. Individuals who are specialized or educated in different fields in the sector came together to provide health services (Bektaş, 2013: 35).

##### **2.1.2.1 Definition of Health Services**

We can express Health Services in the form of all the effort exhibited by healthcare institutions that are exhibited by health institutions for the detection of diseases, operation and protection of the current health of individuals. The World Health Organization (WHO) explains its health services as follows; "It is a continuous system organized throughout the country in order to reach the goals that vary according to the needs and desires of the people by benefiting from different types of employees in health institutions, thus ensuring the health of individuals and the people

through operational actions.” (Karabulut, 2009: 53).

The scope of health services consists of preventive health services, rehabilitation services and therapeutic health services (Bektaş, 2013: 36).

#### **2.1.2.1.1. Preventive health services**

Preventive health services refer to the service provided to individuals with health and well-being, which includes training and studies to improve the health conditions of the public (Karabulut, 2009: 54).

On the other hand, early diagnosis and operation services are included in the field of preventive health services in order to take measures against the risk of deterioration of the individual's health. The scope of preventive health services consists of the following items (Karabulut, 2009: 54);

- Protection from infectious and epidemic diseases
- Family planning
- Maternal and child health
- Environmental health

It is possible to distinguish preventive health services in the form of protective health services related to the environment and preventive health services related to individuals.

Environmental protective health services aim to eliminate the negative chemical, physical and biological elements around us and prevent the public from being exposed to negative effects.

The content of preventive healthcare services related to individuals includes early diagnosis and operation, adopting proper nutrition methods, providing support for strengthening the immune system, combating bad habits and population planning (Karabulut, 2009: 54).

### **2.1.2.1.2 Therapeutic health services**

Therapeutic health services can be divided into two as outpatient and inpatient services. Outpatient services consist of outpatient and emergency services. Inpatient treatment services, on the other hand, can be explained by the fact that the individual receiving health care is present in the institution until the diagnosis and operation ends. On the other hand, institutions (cancer hospitals, etc.) created to provide services in diseases where special diagnosis and operation obligation arise can also be included in the scope of therapeutic health institutions (Yalçın Doğan, 2014: 13).

### **2.1.2.1.3 Rehabilitative health services**

Rehabilitative health services refer to health services provided to prevent permanent disability and problems caused by illnesses or accidents, or to minimize the impact of individuals (Karabulut, 2009: 56).

It is possible to divide into rehabilitation services, medical rehabilitation and social rehabilitation;

While medical rehabilitation is expressed as all of the services aimed at improving the living standards by eliminating physical, permanent disability and obstacles, it is possible to express social rehabilitation in the form of efforts to ensure the active involvement of people with disabilities (Karabulut, 2009: 56).

### **2.1.2.2 History of Health Services in Turkey**

In ancient times, medicine was included in the scope of religious feelings and metaphysical pursuits. The first examples of medical studies go back to the Sumerian period. The first Scientific medical practices were encountered with the emergence of known people such as Farabi, Ibn Sina, scholars of the Islamic period. During the Seljuk period, many health institutions were built and these institutions served to provide medical education. Gıyasettin Medical School and Gevher Nesibe Hospital, built around Kayseri, is seen as the first hospital institution built under the Turkish authority in Anatolia. On the other hand, health institutions such as Divriği Hospital, First Keykavus

Hospital were built. In the Ottoman State and the Republic, health institutions and services continued to provide services by increasing (Sungur Ergenoğlu, 2006: 25-26).

### **2.1.2.3 Health services before the Republican period**

At the time of the Ottoman state, employees named as physician chief provided health services. Hekimbaşılar had a share in the emergence of hospitals, various health institutions and social assistance organizations. "Quarantine Ordinance" II, which is considered as our primary health legislation. It emerged in the time of Mahmut (Sungur Ergenoğlu, 2006: 28). On the other hand, II. Registration and diploma applications were brought in the education of medicine in Mahmut's time, a "Surgeon" was built in Topkapı Palace and home medicine was established. Hometown Doctors carried out activities such as vaccination practices, treatment, infectious diseases, pharmacy and health institution supervision without taking money from patients (Özdil, 2010: 26).

There were Cerrahpaşa, Hamidiye Etfal, Darülaceze, Haseki, Beyoğlu Zükür Gureba, Zeynep Kamil, hospitals in Istanbul. Haseki hospital was representing the third largest hospital of its time. Gurabayı Müslimin Hospital, built in the 19th century, is one of the important hospitals. In addition, hospitals and medical schools of soldiers, foreigners and minorities represented other health institutions. The management affairs of the hospitals were under the responsibility of the chief physicians; but the hospitals of foreigners and minorities were autonomous. Due to epidemics and wars in the Ottoman state, additional structures were established in the hospitals and physicians with medical education abroad were brought. German physician Reider gave a different form to the Ottoman health services by considering the rules of his country. German physicians had a share in the construction of GATA and Hamidiye Etfal Hospital. Şişli Etfal Hospital represents one of the important hospitals built at these times. Haydarpaşa Numune Hospital, which was built in 1903, is one of the last healthcare institutions in the period before the Republic (Sungur Ergenoğlu, 2006: 28-32).

#### **2.1.2.4 Health services in the Republican period**

Grand National Assembly of Turkey after the establishment has been focused on the health activities and earnestly carry out these activities on behalf of Health and the Ministry of Social Welfare (MoH) has emerged. The provincial and central units have redesigned existing health institutions, on the other hand, it has been planned to build rabies treatment centers, vaccines, bacteriology rooms. During these periods, health activities were carried out to a large extent to eliminate infectious diseases of the time. Syphilis war units and war dispensaries were built in the vicinity of Burgazada in Zonguldak and Kastamonu region. In 1924, Erzurum, Ankara, Sivas, Diyarbakır Numune Hospitals and Heybeliada Tuberculosis Sanatorium were built. In 1925, health units were established in the cities of Malatya, Adıyaman to combat trachoma disease, the disease was controlled in 1950, and the activities of these units were terminated in 1980. Haydarpaşa Numune Hospital was built in 1936, and between 1924 and 1936, inspection and operation units were established in the district centers for the benefit of the society and these units were transformed into health centers. 1941 Elazığ leprosy, 1943 Istanbul Balta Limb Bone Diseases, 1946 Trabzon, 1947 Turkish Cancer Research and War Institution, 1951 1955 1957 years are the years when Eğirdir, Urla, Trabzon Bone Diseases hospitals were built (Sungur Ergenoğlu, 2006: 34-36) .

The year of 1960 is considered as the year when the state's evaluation of health activities changed and health activities were evaluated as state duty. Preventive health services were given importance and the principle of providing health services to the villages was adopted. Health houses, health centers are built. Therapeutic and preventive health activities are targeted at the same time (Yetginoğlu, 2009: 29).

Due to the spread of cholera disease with Adana Numune Hospital in 1970, Istanbul Tropical Diseases Institute and Infectious Diseases Hospital were built. In 1980, Istanbul Leprosy Hospital started its operations. The constitution, which was established in 1982, also covers various regulations on health (Sungur Ergenoğlu, 2006: 34-36).

### 2.1.2.5 Features and Qualifications of Health Services

Health services aim to eliminate diseases and ensure full health with the protection of public and individuals' health. The execution of health services consists of different types of services, methods and regulations in the path of these goals. For example, the goal of maintaining health is “preventive health services”, the goal of eliminating diseases through operation “therapeutic health services” is fulfilled with different fund structures, different physical conditions, different institution structures and different methods (Ateş, 2012: 5).

The qualities that distinguish health-related activities from other activities are listed below (Somunoğlu, 2012: 10);

- **Health services have a labor-intensive feature;** Although health-related activities are carried out with the use of advanced technology, personal effort becomes important in the establishment and delivery of services. Therefore, it can be said that my health sector is labor intensive. The efforts put forward in the realization phase of the surgical services are one of the indicators proving that the sector has a labor-intensive quality.
- **Non-substitution and non-deferral feature of health services;** Although the need for healthcare cannot be predicted, it can be deferred due to the nature of the current health problem. On the other hand, the availability of substitution in other sectors does not exist in the health sector. For example, it is not possible to perform an eye operation instead of a heart operation.
- **Inequality of supply and demand and information asymmetry in health care;** This feature is defined as the generalization's meaning that supply generates demand and buyers do not have a determining position on the quality of service and goods they need. The most important problem caused by this situation is that imbalances appear at the information point and the buyer cannot determine the financial cost of the service received.
- **High level of specialization in health care;** The health sector is a sector where the need for specialized employees is heard with the advances in



medicine and technology. Specialized doctors have great importance in deciding the demand for health activities. Intensive expertise level also causes problems related to management from time to time.

- **Healthcare has a random feature and is not stocked;** Since the provision of health care is determined by considering the risk of illness, it has a random nature, so the demand for health services varies. Since the service has an abstract character, it cannot be stocked and it has to be used when it occurs.

Other factors that make up the characteristics of health services; who benefited from the activities, who provided the activities, and in what ways they were financed. Public health services show a public character as it is in the public interest and provided by taxes (Ateş, 2012: 5-6).

Private health services refer to health services, which are revealed by market factors. Complying with the requirements of the facility and labor conditions determined by legal regulations, the main target of the market is put forward through entrepreneurs operating with the urge to maximize profit (Ünal, 2012: 205).

### **2.1.3 Hospitals and General Features**

The establishment objectives and features of the hospitals are stated under this title. Hospitals with their general characteristics are handled as a business and with a system approach.

#### **2.1.3.1 Features of Hospitals and Purposes of Establishment**

Within the scope of its general characteristics, it is possible to handle hospitals in two ways. These are hospitals according to the system approach and as a business, and these features can be examined item by item.

##### **2.1.3.1.1 Hospitals as Business**

Although hospitals are businesses, they are places that produce services. In this context, there are definitions related to hospitals. The World Health

Organization (WHO) is a hospital that can be classified as “rehabilitation, treatment, diagnosis and observation, providing healthcare, inpatient institutions where patients are treated in the short or long term.” expresses in the form (by Kısakürek and Elden, 2011: 15). According to the Ministry of Health Inpatient Treatment Institutions Management Regulation, hospitals are the institutions where the injured and the patients, those with suspected disease are treated inpatient or outpatient, rehabilitation, treatment, examination and observation are made, besides birth. (T.R.Ministry of Health, 2015: 4). In both definitions, it is stated that the main duties of the hospitals are the treatment of injured and patient. However, hospitals are not only interested in these treatments, but also provide health promotion, development, research and education services.

#### **2.1.3.1.2 Hospitals According to System Approach**

In a variable, dynamic environment, there are mechanisms that transform inputs through a certain process and convert them to outputs, and have a feedback system (Bayar, 2008: 48). Outputs include research and development studies, students' internship training, in-service training for patients and patient treatment. Hospitals need to come together and work in coordination in order to perform their functions. Many people from different professions work together in hospitals.

Hospitals have many institutional purposes, and the goals that apply to all hospitals are as follows:

- Using the revenues allocated for the institution in the most economical way and providing health services to more people.
- To provide trainings based on the latest technological and medical knowledge, to conduct research, to take the necessary precautions for the treatment and prevention of diseases.
- Caring for patients to meet hospital quality standards and presenting them at the least possible cost.

Hospital objectives are stated as follows by the Ministry of Health

within the Regulation on Inpatient Treatment Institutions. To determine the principles of the implementation of different services in the Inpatient Treatment Institutions, the responsibility, authority and duties of the employees and to provide an economical, high quality, fast hospital work in accordance with the requirements of the age and the reality of the country (Ministry of Health, [http://sbu.saglik.gov.tr/hastahaklari/ytkiy\(son\).doc](http://sbu.saglik.gov.tr/hastahaklari/ytkiy(son).doc)). As can be seen, as stated at the beginning, there are many institutional purposes in hospitals. In the definition made by the Ministry of Health, hospital services include performing job definitions that are compatible with the titles of the employees, performing technological equipment and treatment and diagnosis for patients. At the same time, to minimize possible disruptions in this process and to conclude in a short time; It is necessary to provide the service at an affordable price, and to establish a business that is compatible with the quality standards of the hospital.

#### **2.1.3.2 Functions of Hospitals**

Hospitals hold a very large functional area in terms of the areas in which they are responsible and the service they provide. Medical functions, including the services provided to the injured and patients, who come to get their health checked, are among the primary functions. The training of all employees working in hospitals related to their duties is another function. In addition to education in hospitals, R&D studies are also among the works that should be emphasized permanently. In addition, there are social responsibilities in hospitals. Social functions in hospitals are carried out by volunteers, public relations officers and social workers. It is possible to evaluate these in a wider range.

**Treatment of Patients and Wounded:** In the past, patients were established based on religious beliefs and gods. There were also clergymen who provided health services here. For example, leech therapy for tuberculosis patients is among the exemplary methods of treatment applied by clergymen. Then, as a result of medical, technological, economic and social developments, hospitals based on scientific basis were formed. Today, various occupational groups work together for the treatment of patients in

hospitals (Merdan, 2007: 71).

**Education:** In hospitals, education is provided to the society, employees, students, relatives and patients about health. Information about prevention methods and treatments is provided to the patients who are treated in the hospital and their relatives. For example, it is within this scope to show the diabetic how to use the insulin needle. Another training offered in hospitals is clinical training for healthcare professionals. In-service training should be provided to the hospital staff. Changes can occur in applications through developing and changing technology. For example, while batikon dressing has been done in the navel of newborn babies, now it is dressing with 70% alcohol. Apart from all these, another education service is the education provided to the society on health-related issues. It refers to the trainings to raise awareness of the society in matters such as obesity and smoking (Merdan, 2007: 73).

**Research and Development Activities:** It is possible to divide the research and development studies carried out in the hospitals in two administrative and medical ways. Medical research involves research on subjects and patients and on patient files. These are carried out by individuals with specialized training in their field. Administrative research, on the other hand, is the researches aimed at determining and eliminating the problems that will occur in hospitals and increasing their effectiveness. This includes all services and products used by hospitals in administrative sense. For example, it is possible to make appropriate building revisions in order to prevent the patients who are receiving chemotherapy from having problems for this reason, and gathering other relevant sections that are required by those who come to this unit together (Kısakürek and Elden, 2011: 19).

**Raising Community Health Knowledge:** Hospitals today offer not only treatment but also preventive health services. Information is also given to those who go to the hospitals about the precautions they will take regarding the diseases that may occur. In addition, they cooperate with other institutions on issues such as teeth, Alzheimer's, and cancer, and conduct screening, vaccination and training programs. Keeping the students away

from drugs and smoking habits by raising awareness with the cooperation made by the Directorate of National Education and Health Directorate is an example of this (Merdan, 2007: 74).

### **2.1.3.3 Classification of Hospitals**

Hospitals can be classified in different ways. However, the classifications are generally based on size, type of financial resource, and treatment service provided. These classifications are discussed one by one below (Yaşar, 2007):

**a) Hospitals by Type of Treatment Service:** These are; those who accept inpatient and outpatient treatments. Branch hospitals are also within this scope. They are centers opened in order to ensure the development of patients depending on a disease in line with rehabilitation. Training hospitals, hospitals that provide research and education services are mostly hospitals where healthcare professionals who are trained perform internships by conducting research on diseases and ensuring that new applications are formed.

**b) Hospitals by Type of Financial Resources:** It refers to the classification related to which institution hospitals belong to. These are municipal hospitals, medical schools, hospitals of the Ministry of Health and private hospitals. All of them have different sources of finance.

**c) Hospitals by Size:** This grouping is based on the bed capacity in hospitals. These are divided into hospitals 25, 50, 100, 200, 400, 600, 800 and above. In this grouping, the Ministry of Health is the authority that determines the bed capacity. In this context, the specialty in the hospital, which has 600 beds, varies with the 25 beds.

## **2.2 Total Quality Management**

### **2.2.1 Quality Concept**

The term quality originated from the Latin word "qualitas". Its first use is in the form of quality and nature by Greek writers. Another place used for the first time is BC in Babylon. Corresponding to article 229 of Hammurabi Laws

dated 2150; If a construction master builds a house for someone else and falls down on the landlord he made, it is the law of cutting the master's head (Biçer, 2006: 35). This law draws attention to the fact that heavy punishments are given to those who harm others due to their product and quality. Reeves and Bednar (1994) defined quality as compliance with requirements and qualified the product as long as it was produced in accordance with requirements. Goetsch and Davis (2003) on the other hand; They stated that there is a dynamic situation that meets or exceeds expectations regarding products, services, people and processes. According to Crosby (1979), quality is the degree of compliance with the requirements. According to Taguchi et al. (2005), quality is the minimal negative situation that the product causes in the society after shipment.

Quality definitions made by some organizations around the world are given below:

- Quality is the production systems that meet consumer demands and realize this in the most economical ways when preparing a service or product (Japanese Industrial Standards Committee - JIS).
- Quality is the level of compliance of a manufactured product or a service provided to consumers' demands (European Quality Control Organization - EOQC).
- Quality is all of the traditional features and characteristics (International Standardization Organization - ISO) of a manufactured product or a service that can meet the needs of a predetermined or need.
- Quality is the sum of features based on the ability of a product or service to meet specified or potential needs (Turkish Standards Institute - TSE).

Based on all these definitions, quality; it can be defined as the sum of the features of a product or service that meet customer expectations and needs. It is the preparation of quality, demands and needs on time, in the most

appropriate way, to meet customer expectations. In this context, the definition of quality, which is a field of use in all respects and in all aspects, has been made valid throughout the world thanks to years of studies and mediations. This definition; is the complete characteristics and qualities of a product and service that can meet the targeted or underlined requirements (Dubose, 2007: 1).

Quality is the conformity to the desired features. This statement consists of two elements; desired features and compliance with these features (Efil, 1995: 115). The feature of the product or service is related to its appearance, and as a result, how much the product or service matches the planned target.

The factors that should be taken into consideration during the evaluation of quality elements will be mentioned below (Karlöf, 1996: 142).

- Determining the target customer precisely,
- Having utility function for demand,
- Identification and identification of the services and products provided by the enterprise,
- On the one hand, while seeking out opportunities for improvement, while revealing the utility functions of existing products,
- Solving the problems in a certain order,
- Determining the methods to be used by the business,
- To make efforts to improve products and services,
- Measuring customers' responses to improve,
- Finally, the efficient use of time.

### **2.2.2 Total Quality Management Concept**

Total Quality Management is a management system that emerged in America, developed in Japan, based on customer satisfaction in all its activities, and is a method used by businesses to achieve competitive advantage today (Çetin, 2009: 11).

The concept of Total Quality Management (TQM), which is mostly used by industry organizations in the past two decades, first emerged with the reconstruction of Japan after the Second World War. Nevertheless, the industry, which provides cheap and safe products, to find its place in free economies, has led to the emergence of the concept of standardization. The fact that these developments take place in the fields of self-education, public and service coincides with the recent periods. In particular, more than one service company in the USA has started to do the necessary work to improve the quality of the services they will offer (Alpullu et al., 2006: 5).

The only benefit that the total quality provides to the Japanese is not the quality advantage. Because it has obtained the advantages of speed, flexibility and cost, which are much more beneficial than quality. In other developed countries that have seen this success of Japan, they have not been able to direct themselves to this market (Kingır, 2007: 8). By the 1970s, the Japanese, Europeans and Americans began to develop the concept and definition of the concept by seeing that quality can take on more tasks than testing the products coming out of production (Günbatan, 2006: 17).

Another definition related to TQM is as follows; It is the management approach at the modern level, where the customer is prioritized and the sustainable understanding is achieved by ensuring that the quality understanding is internalized by staff at all levels from the bottom to the top (Orhon, 2007: 15).

Total Quality Management (TQM) is all of the activities carried out with the participation of all employees in order to achieve long-term internal and external customer satisfaction, to improve processes, to achieve maximum quality and speed with minimum time and cost. On the other hand, Efil (2010) defines TQM as a form of management that focuses on success, customer satisfaction, benefits for the employees and the society, and is focused on quality.

According to Aytekin and Serin (2009), Total Quality Management is defined based on the following three issues:



- “T: Participation of all employees, all aspects of work done, customers (internal and external customers) and all products or services produced,
- Q: Offering products and services that meet quality, namely, customers' current and future expectations and needs,
- M: It refers to the management's leadership in all matters, to be an example for the employees and to provide participatory management throughout the enterprise. ”

According to Dahlgaard et al. (2008), the hierarchy of quality definitions is as follows:

1. “Quality: to satisfy customer expectations continuously,
2. Total quality: Achieving quality at low cost,
3. Total quality management: To achieve total quality with the participation of everyone. ”

Şişman and Turan (2001) stated that TQM is not only an issue on the agenda for organizations, but is defined by some as a philosophy of life. Therefore, they argued that this philosophy means increasing living standards in all areas of life, living a better quality and as a result being a happier society.

### **2.2.3 Historical Development of Total Quality Management**

Historical development of quality; It can be grouped under four headings: inspection, quality control, quality assurance and total quality.

#### **2.2.3.1 Medical Examination Phase**

History of quality is known to be based on Hammurabi Laws dated 2150 BC. It is stated in the article 229 of the famous Hamurabi Laws that there is a statement saying, "If a construction master builds a house for a man and the house is not strong enough and he kills the owner and kills him, the construction master will be blown away" (Şimşek, 2001).

According to Gözlü (1990), the profession of examinations emerged for the first time in the industry and those who performed this profession were tasked with checking the work done and identifying the wrong ones. According to Efil (1995), the main approach of this phase is to ensure that faulty products do not go to the consumer. This approach protected the consumer, but turned into a problem for the manufacturer. For this, a system that also protects the manufacturer has been emphasized and the quality control stage has been started.

### **2.2.3.2 Statistical Quality Control Stage (SQC)**

Control schemes are a system that first appeared in 1920s by finding the opportunity to use in processes. Walter Shewhart, who works in Bell laboratories, was asked to investigate what can be done to increase the reliability of the amplifiers used to strengthen signals during long distance phone calls. Shewhart's research led him to statistical quality control (Efil, 2010).

The statistical system used for the production of a product in the most useful and economical way, which is at the same level with the previously determined quality standards and used to reduce defective production to a micro level, is called statistical quality control. The purpose of the system is to continuously observe the product quality and to take the necessary measures by predicting the problems that may be encountered during their production. Statistical quality control is very important as it provides lowering production costs, increasing labor productivity and protecting consumers. Feigenbaum (1983) stated that quality control consists of the following four stages:

- a. "Establishing Standards: Determining the cost, performance, security and reliability quality standards required for the product,
- b. Conformity Assessment: Comparing the suitability of the produced product or service according to the determined standards,

- c. Corrections When Necessary: Correction in all of the design, marketing, production and maintenance factors affecting the problems and user satisfaction caused by them,
- d. Development Plans: Developing continuous efforts to improve the standards of cost, performance, security and reliability”.

### **2.2.3.3 Quality Assurance Stage (QA)**

According to Efil (2010), Stora and Montaigne (1986) explain the quality assurance stage as follows: “During the second world war years, the foundation of MIT-STD 105 D, which is the most common system used today for acceptance sampling with the help of the developed statistical techniques, is laid. The belief that accepting or rejecting incoming parties is not the best system has started to develop. It is obvious that the problem of the rejection of a batch of material coming from a warring army for some of its vital external needs. Therefore, the main thing is that all of the incoming parties are acceptable. It has been expressed as quality assurance in ensuring this.”

The quality assurance phase includes all previous steps to ensure sufficient confidence that a product or service will meet customer needs. Other activities such as comprehensive quality guides, the use of quality cost, the development of process control and the control of quality systems have also been developed to move from quality control to quality assurance. At this stage, emphasis has been put on change from perception activities to prevention of poor quality (Dahlgaard et al., 2011).

According to Dahlgaard et al. (2011), quality assurance in the ISO 8402 Quality Dictionary has been defined as "the sum of planned and systematic studies that will provide sufficient confidence in meeting the requirements of the product or service for quality". It is stated that the first and most important step in quality assurance is to determine customer needs completely and accurately.

### **2.2.3.4 Total Quality Stage (TQS)**

According to Efil (2010), Stora and Montaigne (1986) stated that the

command of the American occupation forces advised the Japanese, whose telecommunication systems were in poor condition, to get help from the quality experts in the USA, and on this, the experts convey their opinions to the Japanese. It was also stated that these views, called Total Quality Control (TQS), were adopted and developed by the Japanese in the 1950s.

TQS is the work carried out to increase efficiency not only in the manufacturing process, but also in all processes.

#### **2.2.4 Comparison of TQM and Classical Management Approach**

Rapid technological developments, quality expectations of customers, constantly changing markets and increasing competition led to inadequate traditional management approach (Özdemir, 2004: 28). It can be said that for TQM, it is a management style that requires a preventive quality approach and that this quality meets customer expectations, targets permanent performance, envisages the use of the ideas of the employees in the working life and teamwork, and accepts the existence of a flexible organization to do these (Paksoy et al., 2007: 571).

TQM provides organizational structures that allow less gradual (horizontal organization), less prescriptive (flexible) group work; employees in this organization have more powers and responsibilities under the leadership of a more flexible, more delegated, supporting participation, leading continuous development, have more say in management and participate in decisions taken, are trained in many ways, are solution to problems within the business. They play important roles in bringing quality, speed and cost to the desired level, which are important criteria in competition (Bolat, 2000: 46).

While the purpose of traditional management is the satisfaction of the superiors, the aim of the TQM is customer satisfaction and even the satisfaction of the environment, country and society of the enterprise. While the leader in traditional management approach takes decisions with experience and intuition, the leader in TQM; teamwork is understood as using the thoughts that adopt us understanding, mutual trust, sharing.

**Table 2.1.**

*Comparison of Traditional Management Approach and TQM Approach (Kavrakoğlu, 1998; Merter, 2006: 78)*

Traditional Management Approach	
Inspection-based quality	Prevention-based quality
Increasing cost with high quality	Decreasing cost with high quality
Optimum stock	Zero stock
Production between specification limits	Production at target value
Management that develops solutions as problems arise	Management that thinks about and prevents possible problems
System development approach with specialization	Cooperation system development approach with cooperation
Organization based on the exact separation of functions	Organization based on the ideal execution of the business
Production targeting acceptable error level	Production targeting zero error
Hierarchy-based priorities	Customer-based priorities
Reward and punishment motivation	Motivation based on dignity and appreciation
Competitive supply system	Mutual understanding and trust based supply system
Motivation targeting profit maximization	Motivation aiming to improve performance
Product quality according to national / international standards	Product quality that meets customer needs
Quality assurance under the responsibility of the quality control function	Quality assurance under the responsibility of the business
Product design under the responsibility of R&D and marketing	Product development with the contribution of producers and sellers
Optimum fire or rework	Zero fire or rework
Optimum 1st quality / 2nd quality ratio	Only 1st quality product production
Evolutionary speed development	Revolutionary speed development

The table above shows the process management of two different management concepts. Within the traditional management approach, it is seen that the enterprises do not have a preliminary preparation process such as taking precautions in the processes and errors. This brings long-term solution suggestions to companies to provide an effective problem-solving method for the problems that will arise later. However, it is understood from the table that a system such as TQM, which provides a holistic perspective, takes the preventive approach by going down to the source of the problems.

### **2.2.5 Purpose of Total Quality Management**

The main purpose of TQM is to ensure the quality related to the whole enterprise and to carry out quality management activities accordingly. This aim requires the employees of the organization to cooperate in all activities in the business. A TQM implemented in this way means researching, finding, designing, purchasing, producing, organizing planning, inspection and marketing to prevent defects (Taşkın and Ekici, 2011: 10).

In general, Şimşek listed the objectives related to TQM (Şimşek, 2001: 361-362):

- To ensure that all employees, from top management to the lowest level personnel, work in cooperation towards the business target.
- To raise awareness of continuous improvement and development (Kaizen) in the organization.
- Always trying to reach the highest quality level.
- To consider zero error and prevent waste.
- To increase employee morale and efficiency.
- To shorten the production and delivery process.
- To sell quality products cheaply by reducing costs without reducing quality and as a result, to increase competitiveness.
- To fully satisfy customers and gain customer satisfaction.
- To ensure that the company meets its determined targets.
-

It is possible to further increase the number of objectives listed above. If we summarize all these goals in one sentence in general, the aim of TQM is; It is to satisfy and satisfy the needs of the customers, the business with the legal personality and the employees, the society and the environment by meeting the common expectations (Şimşek, 2001: 361-362).

### **2.2.5.1 Pioneers and Approaches of Total Quality Management**

According to Akal (1995: 85); The authors who have contributed to the development of TQM, which is defined as a philosophy based on change for the continuous development of organizational culture, with its important works in this field, have a great impact. Some of these authors are as follows.

#### **2.2.5.2 W. Edwards Deming**

The core of the Deming philosophy, which plays a primary role in the development of TQM philosophy and practice, is the principle of collaborative management rather than conflict-based management. It can be said that the basis of this philosophy lies in the way that everybody should win without losing anyone than the dominant way of thinking that someone else should lose in order to win (Şimşek, 2002: 362).

The importance of Deming in TQM is based on a logical cycle that it developed while teaching how to do statistical quality control in Japan. This process, later called the Deming Cycle, consists of four functions: planning, implementing, controlling and taking action.

During the first phase of the deming cycle, the diagnosis of the problem, its investigation and its causes are found and the appropriate measures are planned. In the implementation phase, plans made are applied. The results of the application performed during the control phase are evaluated, successes and failures are revealed. In the Take Precaution phase, corrective measures are taken to prevent failures. If successful results are achieved, the results are considered to be standard for the next steps. Since the cycle is continuous, a new problem is solved with the planning phase. This cycle is applied in small but continuous improvements. According to Akin et al., (1998:

68); The fourteen principles of Deming, which is one of the important pioneers of the development of TQM, can be listed as follows.

- Ensuring the development of products and services by placing the idea of adherence to the targets,
- Learning and adopting a new point of view by eliminating unnecessary controls and inadequate training methods for those who are unable to present their opinions about the faults, malfunctions, unnecessary equipment and materials that do not work and cannot perceive job descriptions,
- Using statistical methods that increase and measure the level of quality by ending mass control and examinations, and developing them,
- Working with a single supplier for each material to be used, rather than evaluating the work done within the framework of price tags (Long-lasting, trust-based and loyalty reduces costs.)
- Determining statistical methods and continuously improving the service and production system in areas that have problems in order to decrease the cost continuously and increase efficiency and quality,
- Ensuring that the work done on the job is done right from the beginning by applying statistical methods,
- Performance measurements of the employees by using modern techniques and institutionalization of leadership concept, to make things better,
- To establish an environment based on trust in order to work effectively in the workplace,
- Helping the design, production, marketing and research units to act together and solve problems better by strengthening the



relations of the departments, consumers and groups,

- Increasing the quality of slogans and posters in line with those who produce methods for new production and zero error,
- The elimination of business standards preventing digital quota and targets and quality products, employee freedom and efficiency,
- Ensuring that the engineers and manager staff working hourly, are proud of their work,
- Implementing intensive training programs for employees on changes such as new production methods, materials, technologies and product types,
- Including everyone in all the changes to be made and ensuring the implementation and follow-up of all the issues mentioned above.

### **2.2.5.3 Joseph M. Juran**

Quality is a phenomenon that concerns all activities of the business and quality projects should be carried out with the help of everyone in the business (Juran, 1962: 24). These (Cafoğlu, 1996: 8):

- Making the necessary awareness raising for the needs and development,
- Finding the right target to develop,
- Ensuring process development by creating an organizational structure,
- Providing appropriate trainings,
- Defining and reporting the progress experienced,
- Solving problems with a project approach,
- Failures to be ignored and strengthened,
- Discussing the results,
- Recording of the changes experienced

- Progress is defined and presented as a report.
- Establishing annual development cycles for all processes in the firm

Having an important place in the development of the understanding of quality, Juran argued that it is necessary to take action with the planning made after determining the needs and that it should be evaluated for all processes in the trainings to be given and the results.

#### **2.2.5.4 Armond V. Feingenbaum**

Feingenbaum brings a monetary approach to quality management; He believes that the effective establishment and management of quality programs will determine the return speed of the investments to be made in this field, and suggested that determining the cost of poor quality is necessary for quality management. Feingenbaum; has determined ten principles in achieving success in the application of total quality (Akat et al., 2002: 113). These:

- Quality should surround the whole organization as a process.
- Quality also means customer demands, needs and expectations.
- Quality and cost represent an inseparable whole.
- Quality nourishes both individuality and team spirit.
- Quality also has a management method feature.
- Innovation and quality have the same qualities.
- Quality is also a moral philosophy.
- Quality requires performing activities that are constantly improving.
- Using the least capital-intensive techniques necessary for the efficiency of the organizations and providing the effective cost is the tool quality.
- Execution of quality will be possible with a system that can be established between consumers and manufacturers.

Feigenbaum has advocated the development of a quality morality

without ignoring customer expectations and that it should reduce costs by adopting continuous improvement as a principle.

#### **2.2.5.5 Kaoru Ishikawa**

Ishikawa is another person who contributes a lot to the development of quality. It introduced quality circles as a formation development system (Efil, 2006: 102).

Quality circles (Quality Circles) ensure that quality and participation are available to all business people, as well as Histogram, Scatter diagrams, Pareto Analysis and principle (80/20 principle) and Fishbone diagrams, etc. recommended during these studies. provided the methods to assist in the interpretation of quality (Koçel, 2007: 288).

Ishikawa, who has a very important role in the development of quality awareness in Japan, has carried out joint studies with Juran and Deming in the USA. He worked on many problem-solving techniques, respecting the employees, believing that their ideas are vital for the organization.

#### **2.2.5.6 Philip B. Crosby**

Compliance with standards according to Philip Crosby should replace the production-based approach. That is, it is the engineers who determine the characteristics of the products and the quality of the product is in line with the comparison ratio of these characteristics. For example; Ford company compared the gearbox it produced with the Mazda brand. Because although Ford uses parts that are tolerant, it faces problems. Parts used by Mazda can be used for a long time. As a result, it was understood that only the needs were not sufficient. In addition, it has been ensured that quality costs are reduced and quality standards are objective. However, it was also stated that it caused a result such as ignoring customer preferences. As a matter of fact, Philip Crosby underlined that compliance with the standards will provide customer satisfaction (Bakan and Penpece, 2004: 327).

## **2.2.6 Basic Principles of Total Quality Management**

It is the basis of TQM to increase the management quality, human quality, quality of work and product / service quality required for determining the current and future needs of customers and meeting them economically and fully. Their approaches that serve this purpose are examined under sub-headings.

### **2.2.6.1 Customer Orientation**

Due to the increasing competition in the world market, to ensure that customers use their right of choice in terms of business in so many options; only by understanding them and responding to their expectations in the most appropriate way. For this, it is important to know the customer well and to answer their expectations with a quality focus.

The concept of customer expressed in TQM does not only consist of the external customer who purchases the products or services produced by the company, but also includes everyone who is affected by the goods and services produced by the business. Therefore, by bringing the concept of internal customers to the agenda, TQM ensures that customers are taken care of as a whole and realizes their customer satisfaction goals outside the company as well as within the company (Tavşancı, 2002: 31). While the internal customer is company employees; the external customer is the target audience of the company. And “Creating the same relationship with both customer segments is a requirement of TQM understanding. The satisfaction of the internal customer brings with it external customer satisfaction”(Özdemir, 2004: 14).

Organizations are required to learn to measure and manage quality in any business context. In manufacturing, the value is created in the factory. In sales and service organizations and in many professional service companies, value is created when employees interact with the customer. Really employee-customer encounter is the factory of sales and services. If these organizations want to achieve a meaningful improvement in their activities and finances, the employee should manage the meeting with great care

(Fleming et al., 2006: 122).

### **2.2.6.2 Leadership**

One of the most important things for an enterprise that wants to catch up with quality is to become a pioneer in management efforts. This is also true in total quality management. Because a manager who will encourage his employees has a very important role in the formation of an organizational culture that supports the production of a product and service with high quality. Moreover, the fact that an enterprise takes quality as its basis depends firstly on the fact that that manager has adopted the total quality as a basic principle and has understood this better than all employees. In this context, the leader-manager should make efforts to change the ideas about what is more important and the way of conducting the works in order to improve the organization (Bakan and Penpece, 20120045: 380).

Leadership by definition; It is the adoption of his personal will and desires to other individuals by gaining the trust, respect, loyalty and obedience of those individuals. In addition, the leader is called the person who reveals the powers that the relevant members are not aware of, by making the desires and thoughts that can not be revealed even though they are noticed by all the members of the group. (Şimşek, 2002: 81). In total quality management, the leader should be trustworthy, equipped, developer and guiding (Sandelands, 1994: 2). Leadership has an important role in the success of the implementation of total quality management. The key management plays a key role in the success or failure of a business. Because the enterprises feel that they have to act according to the policies and policies implemented by the top management, there is an obligation to act in the line determined by the top management (Genç and Halis, 2006: 336).

Leadership is a must for total quality management to be successful. It provides the formation of targets and strategic methods to be followed. The leader influences those around him and ensures success. Leaders who do not affect their environment can lead to failures. With the realization of leadership, success will increase in every step of total quality management

(Hradesky, 1995: 194). Total quality management is an important change that brings a new style to the business or institution. For this change to exist, the new dimension of the enterprise or institutions can be achieved with the confidence, determination and stable support of the top management throughout the process. For a good first to the end, the leader should show a strong belief and determination, a behavior that will motivate the employees and reveal their thoughts, and they should go through the learning process together with all employees and seek a continuous quality improvement method.

Managers must all embrace total quality management and clearly state that they support it. Leaders should appreciate the work and performance of individuals and teams. An enterprise must first highlight the concept of leadership to implement total quality management. Managers should pioneer the quality management philosophy in the process of implementing total quality management, so they should supervise the efforts of individuals and groups and appreciate or reward it. Leaders should provide training support to employees in total quality management efforts, provide different incentives for employee satisfaction, support improvement efforts, participate in group work themselves, and communicate with people they lead continuously, and improvements in quality are followed and improved (Evans and Lindsay, 1993: 103).

#### **2.2.6.3 Management with Process and Data**

It is important to be able to read the processes and data in maintaining the competition. Continuous development of organizations is essential in order to gain superiority to competitors in terms of quality-cost-deadline components offered to the customer. Statistics are two indispensable elements of total quality application in measuring quality and creating a database. Especially to mention the benefits of statistics; variability is often the most important factor in the occurrence of errors. The role of the science of statistics here is to examine variables through the application of techniques and to find sources that cause errors. Moreover, it also helps communication. Because the different perspectives it provides enable individuals to speak in the same

language. Therefore, adopting statistical thinking structure is extremely beneficial for both technical staff and manager. For example; The reason for the sudden decrease in sales may also be a reason that is within the natural variables, it may be a known reason. In statistics it shows us the difference between the normal and the non-normal. Again, statistics provide necessary information about the life span of the success obtained. Therefore, if the management takes their decisions even for short-term financial success, they should do this from a long-term perspective.

- The process should be ensured to be uninterrupted in order for the problems to arise easily,
- Pulling system can be used to prevent extra production,
- It is necessary to make the workload flatter (heijunka). (work like a turtle, not a rabbit)
- More attention should be given to the culture of stopping in order to solve problems and thus ensure quality from the start,
- By adopting the standard duty approach, it is possible to empower the employees and ensure continuous improvement,
- Visual control should be used in a way that does not miss any details,
- In addition to being tested the technologies to be used, attention should be paid to serve human and process,
- It should be ensured that trained leaders become knowledgeable, have a point of view and can teach others,
- Teams and people following the same perspective with the company should be trained,
- In order to improve the employees, they should be informed about the wide range of suppliers and partners,

- Checks should be made individually to fully understand the situation (Genchigenbutsu),
- The decisions taken should be considered in all aspects and without haste. However, it should be implemented quickly,
- Finally, the learning style of the organization should be transformed into continuous improvement (kaizen) and reflection (hansei).

#### **2.2.6.4 Just-In-Time Production (Just In Time-Jit)**

It is a production philosophy based on just-in-time production, the continuous development of all processes and all efforts in the enterprise and the prevention of waste. It includes the practices and principles of TQM. In addition (Cartin, 1993: 105); It covers industrial engineering features of topics such as reduction of start time, time savings and inventory reduction, cell production systems, reflection of purchasing and material management, and measurements.

The most important factor in JIT's success depends on the understanding of this concept and strict adherence to it. Therefore, it is ensured that the employees are included in JIT. This participation can be achieved through problem solving groups called quality circles. In this context, according to the article published in Harward Business Review magazine no.

The main goal of the JIT System is to reduce costs by preventing waste. However, in order for the system to reach this basic goal, three sub-targets described below must be realized (Xiaobo and Ohno, 1994: 71). These goals can be listed as follows;

- In order to adapt the system to daily and monthly fluctuations in demand in terms of quantity and variety; quality control.
- To ensure that each process sends only good (error free) parts to subsequent processes; quality assurance.
- To ensure that the system can achieve its cost reduction target by using human resources; respect for people.



The objectives of the JIT Program are; It is possible to list such as decrease in supply processes, ease in management, increase in flexibility and adaptation to market trends more quickly, and mutual trust between suppliers and customers, long-term business partnerships based on trust. In this case, JIT is not a stock program or model, nor a material planning or a purchasing program. JIT is a broader concept than these concepts; facilitates material flow, simplifies the production process, increases the efficiency of the machines. It increases the morale of the employees, increases their productivity, gains the understanding of group work, motivates people to work. The result is a reduction in costs and an increase in quality and is best presented to the customer. In this case, it provides a competitive advantage to businesses that implement JIT. As can be seen, JIT can also be used as a strategic tool (Xiaobo and Ohno, 1994: 71-72).

#### **2.2.6.5 Zero Error**

The total quality cycle constantly transforms human values into action and action into human values in the business (Arioğlu, 1995: 26). Today, capturing the leadership of the sector (especially in developing countries) can be in question as long as the “speed and quality” advantage is achieved. The answer to the question of how to achieve this success lies in a very simple but simple as well as a complex factor: “Human!” In the past, when only quality of service or goods is understood, today, at the point reached today, quality includes the factors that take place in the process until the presentation or sales stage of the product or service, at which point the “human” factor, which is the indispensable factor of the production process, is the first and most important determinant of quality. . Then, going one step further, trying to stop questioning the quality of the people who are conscious of quality and trying to increase the number of qualified people will be the most important step to take for a long way to go (Tozkoparan, 1997: 117).

Philip B. Grosby proposed a program consisting of 14 steps to implement this approach within the framework of an effective program. These 14 steps, which have been used as guides by many businesses in recent years; loyalty of the management, establishing a quality improvement group, measuring

quality, measuring the cost of quality, making everyone aware of the quality, making corrective actions, allocating some people from the quality improvement group for zero errors for a short time, training managers at all management levels, organizing a zero error day, It can be listed as determining the objectives, asking to identify obstacles in operating at once and correctly, encouraging and appreciating the employees in determining the obstacles, establishing quality councils and re-implementing the program.

#### **2.2.6.6 Problem Solving Methods**

Problem solving methods are a real methodological process that managers must know in solving problems; because in turn, they will have to use them and teach the workers. The most important benefit is that it directs the employees towards the solution.

By following the order specified in Table 2, it sets out the steps to be taken by the group of employees who have to solve an existing problem. The tools that can be used at these stages are stated opposite each of them (Yıldız, 1994: 28). If an effective understanding of problem solving can be achieved in all departments of the organization, possible problems will be eliminated from risks by preventing the problem from growing in a systematic approach, not in a state of turmoil. The main approach here is to ensure that the employees adopt a more conscious and strategy oriented principle.

**Table 2.2.***Different Stages that the Problem Solver Group Can Face (Yıldız, 1994: 29)*

Method of handling the problem	Tools
1. Choosing the subject	Brainstorming Decision making tools (voting, consensus etc.)
2. To reveal the problem	- Graphics
- Collecting data	- Pareto diagrams
- Formulating the problem	- Who, what, when, where, how, why?
3. Investigating the Causes	- Ishikawa Diagram
4. Researching solutions	- Cause and solutions classification chart
5. Setting selection criteria	- Setting limits - Consider restrictions - Redefining goals
6. Compare solutions and criteria	- Matching matrices
7. Selection and proposal of the solution	- Decision tools
8. Selection and implementation of the solution	- Who, what, when, where, how, why?
9. Standardization	- Who, what, when, where, how, why?

In the table above, which defines lean management, it is stated above that the most important factors are determining the problem and determining the path to the systematic result with the most appropriate solution suggestions. Communication between employees and management is enhanced in various activities. Thanks to this, people know each other better and build trust. The solution can be reached easily by finding the source of the problems and communication disconnections between people quickly. Productivity increase is achieved with the participation of everyone. The increase in productivity depends on increasing the welfare of the employees.

## **2.3 Total Quality Management in Hospitals**

### **2.3.1 Concept of Quality in Health Services**

In the 1980s, when the idea of restructuring in health services came to the fore, all the countries of the world entered new searches in order to allocate resources for health. Due to this new formation and the peculiar features of health services, the importance of the concept of quality in health services is increasing day by day, as the inadequacy of service provision or the errors that may arise due to this may cause great problems related to human life. The most important factor for the enterprises to take part and survive in the competitive war has been the quality of the service produced (Aslantekin, Göktaş, Uluğen, Erdem, 2007: 59).

The quality of education, security and health services is increased even more by preventing the problems that occur during the production of the services provided. Because the elimination of costs that will arise after production can cause problems that cannot be solved. Therefore, it would be more correct to highlight the service quality rather than restricting the services with a single definition. Moreover, the most used term in the literature is that the consumer, not the producer, determines the quality. In this context, it will not be a false inference to say that the more the service received by the consumer meets their expectations, the higher the product is (Karabulut and Yapraklı, 2001: 119).

Service quality is the most frequently studied subject in service marketing. Previously, what determines the intent to purchase a product was based on the relationship between the company's performance and customer satisfaction. For example, the most important factor in ensuring patient satisfaction is the service provided to the patient, which also shows the success of the health system (Choi et al., 2004: 914).

Some of the factors that determine the quality of health services are as follows; patient personnel relationship is positive, food is delicious, sheets and beds are clean, TV is in the rooms and waiting rooms meet the needs. On the other hand, since hospitals are the service areas where healthcare is

provided and patients are treated and examined, their main purpose is to achieve satisfaction and satisfaction of the patient. In this context, if a patient is satisfied with the hospital he / she went to, he would prefer to go there constantly and become a permanent customer of the rate. However, it should not be forgotten that the quality of service, which is very important for all service organizations, is most important for health services. That's why health ranks first in human life (Gülmez ve Kitapçı, 2008: 148).

After 1985, the service quality studies of Parasuraman, especially for hospital services, paved the way for other studies to be carried out after that. Cunningham examined the dimensions of service quality in three dimensions as clinical quality, patient-based quality and economically-based quality. Four years after this study, service quality dimensions were examined by Tomes and PengNg as eight factors as empathy, cost, understanding the patient, respectful relations, religious needs, food service, doctor's environment and reputation. Grönroos analyzed its service quality under two headings: technical and functional quality. The technical dimension is related to the physical characteristics and functional dimension of the person providing the service or the place where the service is offered. In his Carman study, he examines the service quality in two dimensions: technical and accommodation. Technical dimension of nurse, doctor service; accommodation size, on the other hand, constitutes factors related to accommodation such as food, room temperature, cleaning, and park (Gülmez and Kitapçı, 2008: 167-168).

Quality in healthcare services includes not only meeting the needs and requirements of those who request the service, but also the use of scientific and technical facilities. Quality control, quality assurance and TQM are included in the quality process of the health service. Production and management of information is at the core of TQM. It is essential to know, recognize and measure in order to develop thinking skills (Gülmez and Kitapçı, 2008: 169).

### **2.3.2 Health Sector and Total Quality Relationship**

It is called quality that the customer is satisfied by providing the benefit they expect from the products and services they receive. It was thanks to TQM that the concept entered the institutional administrations. TQM emerged in line with the needs of the enterprises. Because it is not possible to talk about a company that does not have a customer. Therefore, the acquisition and continuity of the customer is related to how satisfied the customer is with the product and service. The fact that customer satisfaction came to the fore with the arrival of TQM increased the level of expectation of patients. Within the framework of this information, the definition of quality in health services can be done in the form of satisfaction of the institution, the patient and the society, which has achieved new medical and technological developments, taking into account the patient's expectations, wishes and needs (Bostan et al., 2007: 62-63).

TQM practice was initiated under the leadership of the USA in healthcare services. The need to reduce costs due to economic conditions and the treatments performed incorrectly since 1970 have been needed as a result of complaints turning into a judicial event (Bekaroğlu, 2005: 20). TQM is a management approach that has been formed after the final control, statistical quality control and quality assurance stages in the first quality studies. In the USA, success was achieved in the industry sector with the Quality Assurance (QA) practices in the 1980s. This success caused QA applications to start in the health sector as well. Then, QA practices became an accreditation requirement for health services. QA studies for the determination of processes, elimination of problems and maintaining the standard level have found wide coverage in health services. In the early 1990s, QA studies were replaced by TQM. Today, more than 60% of the hospitals with 50 or more beds in the USA have been transferred to TQM and 30% are in the transition to implementation (Can, 2008: 9).

Again, TQM has become a subject of legitimacy for health institutions since the 1990s. While those who applied the TQM firstly aimed to increase efficiency and meet the needs of the organization, others started this practice

with the concern of legitimacy. In a study conducted on 193 hospitals in Europe to measure the relationship between TQM practices and operational performance, a significant relationship was found between institutional performance and TQM. However, it has been demonstrated that the level of the content is not only important in applying TQM (Bekaroğlu, 2005: 20).

Another important issue for healthcare institutions is customer satisfaction. Compared to previous patients, today's patients are more educated and knowledgeable. These patients are researching which health institution they will receive, and prefer the best institutions and people who can be alternative (Gülmez and Kitapçı, 2008: 166).

The adoption of a customer-oriented approach in health services caused a change in expectations and perceptions of those who consumed healthcare services. This change can be expressed as another reason for the transition to TQM. With TQM, issues such as patient satisfaction, improvement of services, measurement of health service in terms of quality and quantity, and patient care quality have gained priority (Yıldız and Turan, 2010: 41).

It is possible to list some of the reasons for quality practices in the health sector as follows (Yıldız and Turan, 2010: 41-42):

- Increases in purchasing power of individuals.
- It is the start of competition among the institutions providing health services.
- Increasing demand for quality care in health services.
- providing effective and efficient service delivery by finding solutions to quality-cost contradiction.

According to Donabedian, the quality of health services consists of seven factors as effectiveness, effectiveness, efficiency, optimality, acceptability, legality and equality (Bostan et al., 2007: 63). The following variables should be carefully examined in determining the quality of the service provided in health institutions (Öçalan, 2009: 30).

- Effectiveness; In order to improve the patient, it is the development of the possibilities by using the scientific knowledge in the most accurate way.
- Accessibility; It is the amount of waiting and distance between the time when sick individuals need service and when they reach the service.
- Effectiveness is to be effective in the use of all resources that may be needed during the course of the disease and the health status of the individual within the framework of the service understanding offered to the patient.
- Equality; It is the non-discrimination, equal treatment and equal service to all beneficiaries.
- Admissibility; The services provided are at a satisfactory level for the sick individual and his relatives.
- Participation; It is the conscious participation of the patient in the treatment process.
- Being Optimal; It is the most appropriate balance between cost and benefit while ensuring the balance of the sick individual in terms of spiritual, physical and spiritual aspects.
- Continuity; patient care is sustainable. When the patient wants to get service from another health institution, medical records should be available.
- Just in Time Service Delivery; is to prevent any delay in the service provided to the patient. Services provided to patients should be full-time.
- Efficiency; These are the services produced in order to provide the least costly, correct and accurate care of the treatment.
- Legality; is the acceptance of the services offered in the whole society.

TQM is a process where the participation, teamwork and initiative use of all employees is required in a hospital. Hospitals are one of the most complex businesses today. A hospital, which is divided according to its aims and duties, is a business with a structure consisting of more than 20 sub-



organization units devoted to each health service. The services provided in the hospitals are grouped in 4 groups consisting of medical services, nursing services, administrative-financial services and technical services. In addition, it covers a wide range from basic hospital services, cleaning services, laundry, food and beverage services, technical administrative and financial activities and medical services. This organization, which is different from each other in terms of quality and quantity, is a structure that is difficult to manage according to many organizations in terms of managing it effectively and efficiently, organizing relations between units and ensuring working harmony (Hayta, 2008: 49).

### **2.3.3 Developing Professional Standards in Health Services**

The development of professional standards in Total Quality Management consists of two main topics. These titles are; patient-oriented care and treatment processes can be subjected to two different classifications as the continuous improvement of standards of care and treatment processes. Öcalan listed this classification as follows (Öçalan, 2009: 32-34):

a) Patient-oriented care and treatment processes

- Personal care plans
- Patient education
- Patient rights

b) Continuous improvement of standards of care and treatment

processes;

- Planning
- Applications
- Monitoring / Evaluation
- Decision / Standardization

Patient-oriented care and treatment processes; it consists of personal care plans, patient training and patient rights. Under the title of continuous improvement of standards of care and treatment processes; planning, implementation, monitoring / evaluation, decision and standardization applications are included. Each of these applications is of different value in

terms of service quality. On the one hand, a patient- and employee-oriented approach can be adopted, on the other hand, an approach focused on service and quality practices can be adopted. The important thing is to put the applications in the two parts into an organizational structure in a healthy and balanced way.

As a result; It will be possible to achieve the desired quality level and ensure continuity by applying the TQM philosophy practices, which are widely used in the health sector, by adopting them in health services.

### **2.3.4 Factors Affecting Quality in Healthcare Institutions**

#### **2.3.4.1 Communication**

Communication has more importance in health institutions compared to other institutions. Because these institutions require high functional commitment and advanced expertise. For example, even the simplest surgical intervention needs the idea of more than one specialist. Moreover, more than one unit may have to make a joint study during the diagnosis of some diseases. Therefore, vertical and horizontal communication lines in health institutions should be established in the most correct way.

The name given to the way of communication between the units is the consultation. Consultation is a procedure usually performed before the surgical intervention begins. In addition, it is an imperative to work with other teams when an unexpected complication is encountered during surgical interventions. The realization of this imperative is also made possible by communication.

Before the surgery, some examinations are made in the radiology and laboratory related to the patient and the results of these examinations are reported to the doctors. If the doctor examining the results requires surgery, he informs the relevant place for the preparation of the operating room. In short, communication has a very important place.

However, TQM has an important place in ensuring a healthy communication. However, a successful TQM is made possible by healthy communication.

Therefore, in an environment where there is no healthy communication, management will be disrupted, there will be no relationship between the units and problems will be faced as they cannot be foreseen. Moreover, some of the negative results of this situation in health institutions may not be compensated.

In addition to this information, the principle of total participation, which is one of the principles of TQM, has some of the same features as communication. Namely; both principles accept the principle of volunteering and participation.

To sum up, it would not be wrong to say that the healthy relationship between customers and health institutions depends on the appropriate organizational structure, strengthening missing networks, creating feedback networks, communication is not a tool but a purpose and use of more than one communication channel.

#### **2.3.4.2 Patient Satisfaction**

The “Health Reform” in Turkey was determined by the Health Sector Master Plan Survey, which started with the SAĞ KUR after the mid 1980s and was introduced through the Ministry of Health and the State Planning Organization at the end of the 1980s. The Master Plan Study described the current conditions of the health sector and revealed the main methods for its progress (Öksüz, 2010: 74).

Patient satisfaction can be achieved by increasing the quality of the service provided to patients in order to ensure patient satisfaction in health institutions, by prioritizing the wishes, needs and expectations of patients, and by continuing the improvements made in patients' expectations in health services (Chakraborty and Majumdar, 2011: 150). In addition, healthcare professionals working in health care services should be trained on patient rights and these rights should be taken into consideration. One institution is ahead of other institutions in achieving customer satisfaction as far as it cares about patient rights.

Efforts to increase the quality of the service provided to patients have

accelerated with the perception of patients as customers in today's conditions. For this reason, businesses have to give more importance to the concept of satisfaction in the rapidly increasing competitive environment of today's markets.

The concept of patient satisfaction is a phenomenon that covers subjective, variable and individual perceptions of patients receiving health care (Özen et al., 2011: 27). The concept of patient satisfaction, which is associated with evaluating and perceiving the results of the care given to the patient and meeting their expectations, is different or different by the same people. It is defined in different ways as possible over time periods. Satisfaction related to nursing care, for the first time, defines it as the harmony between nursing care and care provided to the patient by Risser in 1975. Greeneich also describes patient satisfaction as "the compatibility of the service that the patient meets with the demands", similar to Risser's definition. Similar publications of the concept are also found in other publications on the subject. Today, the focus of patient satisfaction has been the quality of health care. When it comes to healthcare quality, International Research shows that only the medical needs of patients receiving this service can be left behind in the services that give priority to patient satisfaction and consider it. At the same time, the requests, needs and expectations of the patients are ignored only in the services aimed at meeting the medical needs. For this reason, it is very important for health institutions that do not want to have problems in this way to put the quality of the health service they offer in two main aspects in order to ensure patient satisfaction.

- Providing the most appropriate healthcare services required by modern healthcare services,
- Protecting the patient's rights is meeting the demands, needs and expectations of the patient.

The aim of the research conducted in determining the patient satisfaction is to learn the evaluations of the patients about the service they receive, to learn their opinions about the quality of the service, to find out how satisfied

they are with the service they receive, to determine the priorities of the patients for the satisfaction of the patients, the reasons for choosing the business, the negative experiences while receiving the service, the expectations from the business. These satisfaction researches are given to the customers by providing information about the methods and service development of the health care institutions, enabling the evaluation of the effectiveness of the programs implemented, offering the opportunity to compare with other rival hospitals, publicizing the results and increasing the accountability of the institution due to these reasons. It offers a lot of benefits to customers, as their responsibilities increase as well (Yıldız and Eliş Yıldız, 2011: 127-128).

Providing customer satisfaction is not only the advantage of acquiring or retaining customers, but also offers competitive advantage against its competitors. Since patient privacy is very important in health institutions, appropriate communication methods should be chosen by treating patients with sincere behavior and thus helping to eliminate the timidity of patients (Küçük, 2009: 81).

It helps to attract new customers to the institution by explaining the positive thoughts of a loyal and continuous customer about the institution to their institutions, and therefore provides a great advantage to the institution.

Especially the institutions that provide health services, which should provide customer satisfaction, are very large and diverse. Every patient in the target group has different wishes and expectations, and in this context, institutions must constantly renew their service variety and ensure their continuity (Yıldız and Eliş Yıldız, 2011: 134).

#### **2.3.4.3 Patient-Physician Relationship**

Today, while the patients are evaluated with the quality of the physician they serve, they consider the behaviors rather than professional knowledge and skills. What is wanted to be explained with the behavior is that the doctor listens to the patient, is smiling and kind. Because the behavior exhibited by the doctor is also effective for the patient to listen to him. Thus, the patient

takes the doctor seriously and hugs his treatment with four hands.

The relationship between the patient and the doctor has an asymmetrical structure. Namely; The patient has to get information from his doctor about the subject he is inadequate. Therefore, the relationship between the two must be appropriate and clear. Moreover, the doctor should provide both patient confidence and knowledge and motivation.

#### **2.3.4.4 Enlightenment**

The patient has the right to request written oral information about the health status, the medical procedures to be applied to him, the benefits and harms of these procedures, the possible consequences if he refuses treatment, and the course of the disease. Informing the patient should be clear and clear, and should be expressed appropriately and gently according to the mental state of the patient, without hesitation and doubt. It is appropriate not to inform the patient if it is noticed by the physician that my mental state is not enough to have a bad effect on the patient's illness.

Informing the patient is not only a factor affecting satisfaction, but also a right. In cases of emergency and delay, or in special situations such as the patient's unconsciousness, the patient is not obliged to be informed. Privacy is also a right like information. All health personnel participating in the treatment and diagnosis process have a confidentiality obligation regarding the disease and personal status. The patient determines who can be informed about the health status. If the patient does not want information about his / her health status to be conveyed, it is sufficient to state this to the relevant people.

It should also be explained to the patient that he / she can understand the disease situation with understanding and that this is a normal thing. This gives the patient a follow-up to take care of him. Information is so effective on patient satisfaction; It even shows the effect of patients on the choice of public private health institutions.

#### **2.3.4.5 Fees**

In every sector, the desire of the consumers is to reach qualified services and goods by paying the least price. When we look at private hospitals, it is seen that high pricing lowers patient satisfaction. Facilitating payment in the face of high billing and establishing a certain payment plan may reduce this dissatisfaction. "Within the scope of healthcare, the payment system has serious implications for equality and efficiency in services." (Belek, 2009: 131). For example, the retrospective payment system for physicians increases physician independence. Physicians do not encounter any economic limitations in the scope of payments to be made after the service. This allows them to make more use of supply-based demand power.

#### **2.3.4.6 Waiting Period**

The functioning of the patient examination process in a health institution is as follows: The patient has to enter the procedures, go to the relevant outpatient clinic and have an examination. After the examination, if the doctor deems it necessary, some radiology and laboratory examinations can be transferred to the next day. The patient comes again the next day or afternoon on the same day. During the day, he waits in the first recording, outpatient clinic, laboratory and places such as radiology. In this case, it is not realistic to expect satisfaction from the patient. This process must be well defined and evaluated, and the patient's needs and feedback must be taken into account.

Turkey put into practice as a result of the Center Physician Appointment System has been eliminated these problems significantly. Physicians can be selected easily over the Internet or over the phone, and appointments can be made. In this system, ten minutes were determined as the patient examination time. Apart from this, satisfaction is increased if determining, evaluating, controlling and reducing waiting time is provided.

#### **2.3.4.7 Quality Cost Relationship**

As the inspection step is one of the quality development processes and costs have increased at this stage, the search has been made and the transition

has been made to the next stage. The reason for the change is that in this step, weeding is carried out after the production of the product, instead of prevention. This is due to the fact that the cost of preventive health care services is lower compared to therapeutic health care services. Prevention expenditures can also be used in the training of the staff in the institution, and therefore, the cost of failure will decrease as a result of the training of the staff.

Only material losses should not be taken into account in the determination of quality costs. Values such as workforce, labor and time should also be added to the cost in health institutions, which are among the institutions where specialization and labor are intense. "In the activities carried out within the scope of total quality management, the decrease in the cost while the quality has increased has refuted the idea of a linear relationship between them." (Feigenbaum, 1983). The reason for this is that quality does not consist solely of money resources and that quality provides an effective use of resources. Quality cost is the best criterion which is an indicator of change and development in quality.. For this reason, the cost of poor quality and the costs of creating quality should be calculated and the result of poor quality should be shared with all employees. When the personnel are aware of the cost of poor quality, they will work more seriously and meticulously and create an auto control system(Feigenbaum, 1983).

### **2.3.5 Total Quality Management Practice Models in Health Sector**

It is extremely difficult to carry out total quality practices within the scope of the features they have in hospitals and all health institutions. International standards should be achieved in order to ensure total quality in healthcare facilities. In the context of international standards, along with the care, treatment and diagnosis services, the needs and demands of the patients must be fully met (Zerenler and Öğüt, 2007: 52).

The importance of Turkey in terms of health care is increasing. It has been a serious change in the health transformation program related to the health sector in Turkey. With this program, hospitals are gathered under a single



structure. This allowed the complex structure to be simplified. With this process, it is seen that the service approach focusing on quality in hospitals is more important. It is difficult to provide patient satisfaction permanently since it is a 7/24 service basis in healthcare. In addition to this, an environment of competition has emerged between private hospitals. This resulted in the highlight of quality in healthcare. Within this structure, it is seen that total quality management in health institutions has become important in meeting spiritual and social needs. In addition to these, it has been observed that the total quality approach in line with the health sector is important not only with healthcare, but also within the scope of services such as shelter, food, which are intertwined with health (Şahin, 2001: 63).

Meeting the needs of customers quickly and in a qualified manner also increases the tendency towards ensuring the comfort of the patient. Structurally, total quality management is the process of change. The process of change includes the elements directed by the senior management of the institutions. In this regard, there should be a qualification regarding total quality management in management and this qualification should be transferred to the personnel. In individuals and organizations that have a total quality management philosophy, elements such as continuous improvement, communication, education, and strategic planning should be implemented. The practices mentioned in people with this philosophy and in institutions and sectors show themselves at every stage and area.

In order for total quality management to be effective in the field of health, the personnel at every stage of the health institution should have knowledge on this subject. In addition, health institutions should have institutional features, and strategic planning with management should gain institutional features. Institutionalization is important for the establishment of total quality management.

Quality of service in the field of health; The processes can be renewed with zero error when the implementation of the planned, the supervision of the implementation is in the form of getting feedback from the audited. In addition, the Deming model, which takes place in quality approaches, is

extremely important. In this model, it is seen that quality control studies are carried out over four processes. These are in the form of planning, making, controlling and taking action. When Deming is applied in the field of health, the performances of health workers increase and this increases the quality (Parlak, 2004: 29-31).

Another model used in the scope of total quality management is the Malcolm Baldrige National Quality Model. The remarkable factor within the scope of this model is the creation of quality awareness. This model addresses three different firm structures. These are large manufacturers, service companies and small businesses. In this model, the process starts with creating an activity plan. Then, the system is installed and at the end, the process is finalized by analysis. In addition, the Malcolm Baldrige National Quality Award is distributed to small businesses, non-profit organizations that provide health, service and education (Bekaroğlu, 2005).

Self-assessment is seen as a continuous improvement tool within the scope of the National Quality Model. In line with the understanding of continuous learning and education, it is aimed for companies to produce in a quality-oriented manner. In the European Quality Model, external evaluation services with international and national awards are important (Bekaroğlu, 2005).

Another important model related to total quality is the EFQM Excellence Model. This model allows organizations to assess whether they achieve perfection and improve themselves. In addition, it enables companies to grasp the level they have reached. With this model, it is possible to determine the problems, but it is also possible to determine the solution methods (Akbayrak, 1999).

There are 9 criteria within the scope of the EFQM model. These criteria are as follows (Turkey Quality Association, 2018):

- Leadership,
- Employees
- Strategy,

- Processes, Products and Services,
- Collaborations and Resources,
- Customers Conclusions,
- Employee Results,
- Community Results,
- Basic Performance Results.

As part of a study, the effects of the EFQM model on the levels of professional burnout of healthcare professionals were examined. As a result of the examination, it was concluded that the nurses working in hospitals with quality awards had less burnout levels than nurses working in non-awarded hospitals (Zerenler and Öğüt, 2007). As a result of this situation, it is possible to say that quality models have positive effects on employees. Knowing which model is used for what purpose is important for ensuring effective use.

### **2.3.6 Benefits of Total Quality Management Practices in Healthcare Organizations**

Gökbunar and Kayalı (2002) listed the benefits of Total Quality Management application in health services as follows:

- Instead of bringing a solution after the problems arise, a production approach based on zero error is dominant, which aims to prevent precautions and prevent the occurrence of the problem from its source. It is especially necessary that it is almost impossible to correct errors in healthcare.
- The "crisis management" philosophy at the management level turns from "Japanese to Kaizen", which has entered the quality literature in the form of Kaizen (better). This approach translates into a proactive policy in the field of healthcare.
- From an approach where customer / patient needs are ignored, a

customer-centered approach is transformed. Thus, the changes to be made are within the scope of customers' needs and requests.

- Healthcare managers make decisions by using benchmarking and brainstorming tools instead of making decisions within the scope of their goals and wishes. In decisions made with TQM tools, subjective decisions made by healthcare managers are prevented from emerging. This provides a more scientific approach to service.
- Instead of the supervisors providing continuous control and inspection, there is a process control where the staff provides auto control. Considering that serious part of the medical errors are made by individuals, it is seen that the personnel providing auto control will contribute more to the quality.
- It provides a continuous improvement in human resources. The development in human resources results in the employees' willingness to fulfill the service.
- Instead of the minimum level of knowledge and training required for employees, the employment of knowledgeable personnel is ensured through institutionalization and consideration of education within the organization. Trainings carried out in institutions support the specialization of individuals and the professionalization of the institution.
- An approach such as the responsibility of only one individual for a job is replaced by "consensus decision making", "total quality and synergistic management", "team work". All of the people providing service become part of both quality and service.
- Instead of a managerial approach based on instructions, discipline and authority, a leadership approach based on the cooperation and cooperation of staff and managers. The effective leadership approach provides strong coordination between the units.

- Registration and severance-based understanding of favoritism, which is seen as favoritism, is replaced by an understanding of promotion that is based on merit and has objective criteria. Knowledge-based promotions enable us to understand the needs of patients and create a managerial staff that can serve in this context.
- The vertical organizational structure is replaced by a horizontal organizational structure in which responsibilities and powers are divided into teams in different units. This speeds up services.
- Quality understanding takes priority, not public benefit. It is not possible to compromise on quality, especially in healthcare.
- Powers are not hierarchy, but distributed according to professional expertise. This increases the service quality.
- Uncertain and closed principles and values turn into a consistent and open mission and vision. This is shared by all employees. This understanding helps to make the right decision in the services to be offered to the patients.
- Routine programs leave their places to static plans. Changes in treatments make it easier to adapt to technological developments.
- Wage policy is determined again. Compensation based on the performance and qualifications of the individual is adopted instead of equal pay or severance-based pay for equal work.
- Apart from salary and overtime, it provides high performance and successful awards. These rewards reward devoted employees, and people see themselves as part of the organization.
- A flexible policy is implemented instead of a hard employment policy. It develops a flexible attitude towards employees.
- A managerial approach that includes punishment, fear, command

and instruction leaves its place to mutual cooperation, trust and delegation. If this is an environment of trust, it will be reflected to the patients and will ensure trust in the institution.

- Subordinates solve the problems they face by using initiative in cooperation with their superiors. Sharing mistakes and mistakes is ensured so that larger problems are prevented in the first place.

## **2.4 Innovation and Provision in the Health Sector**

### **2.4.1 The Concept and Importance of Innovation**

Innovation is derived from the word "innovatus" in Latin. It means "the introduction of new methods in the social, cultural and administrative environment". In Turkish literature, in contrast to this concept, the words innovation, innovation, renewal and "innovation" produced by the Turkish Language Association are used (Elçi, 2006: 1). In the Oslo Guide of the concept of innovation; It is seen that it is defined as "a new or significantly improved product (goods or services), or process, a new marketing method or a new organizational method in internal practices, workplace organization or foreign relations" (Oslo Guide, 2005: 50). This concept; It is expressed in the form of designing new services / products, using new presentation and production methods, or introducing a product that has never been manufactured to the industry for the first time. In addition, this concept includes the use of previously used and created technologies in a different area for the first time (Dinçer and Fidan, 1999: 167).

It is seen that the definitions about innovation and prominent innovation dimensions vary according to the researcher. The concept of innovation is Zuckerman(1968), "Steps that have a commercial, industrial, technical range." Expresses in format.

Myers and Marquis (1969) understands this concept "It is part of the change in technology." is approaching.

According to Kuhn (1985), creativity is "being able to create something out of nothing", and innovation is "being able to turn them into services and

products." Badawy (1988) says creativity is "making something happen"; "Making something available." states that. Udvardia (1990); "Successful creation, promotion and development of new processes, services and products." expresses in the form. Twiss (1995) said, "Success is a must in the market in order to innovate a new invention." (by Cumming, 1998: 22).

Innovation is to support the development of new ideas and products, creative experimental processes, production processes, goods and services, which are the result of technological infrastructure (Lumpkin and Dess, 1997). Erdil et al.(2005) defines innovation as "applying new production methods in service and product production and developing new methods in working processes". Erdil et al., (2005: 4), innovation; they defined it as the development, adoption and implementation of new ideas, processes, products or services. The perception of an idea as new starts with the person's reaction to that idea. If the idea seems new to the person, this is an innovation (Robertson and Yu, 2005). Exploring new technologies, proposing new ways to achieve goals, applying new working methods and securing resources to apply new ideas, and researching new sources are examples of innovative behavior (Yuan and Woodman 2010). In order for innovation to occur, it is necessary to acquire new markets, new products, new supplier resources, create new forms of production and an organization open to innovation (Thakur et al., 2012: 565).

Businesses care about having employees who will create innovation, create a new idea and put it into practice. In this sense, innovation should not only be understood as a technical term. It is a social and economic term. The criterion of innovation; it is a change in the economic and social environment, not scientific or technological. It is a change in people's behavior. Innovation means creating new assets or potential for movement rather than new knowledge (Drucker, 1985: 785).

Concepts such as creativity, technology, R&D, invention and patent are closely related to innovation. Creativity is the process of generating new ideas. Kotler and Kotler (2000) defines creativity as a process that involves merging irrelevant thought matrices as a result of a delicate effort, which has

not been established before, to reveal an understanding. Innovation and creativity are two different concepts. Creativity refers to the production of new, useful, original and useful ideas that form the initial stage of innovation. Innovation, on the other hand, involves the creation of commercial ideas that have a commercial character, the process of applying these ideas for commercial purposes and placing them on the market (Özçer, 2005: 16-17). According to Rosenfeld and Servo (2004), creativity is about the creation of new ideas, innovation is about the process of turning these new ideas into profit. Creativity is the starting point of innovation and the seed of all innovations. In this sense, creativity at the individual and group level can be accepted as the starting point of innovation. While the employee generating ideas for a restructuring in the production line of the enterprise is considered to be his creativity, the positive developments that will occur in product effectiveness or quality with the implementation of this idea are expressed as the innovation of the enterprise (İraz 2005 Akt. Özçer 2005: 16-17). Although creativity is necessary for innovation, it is not enough by itself. In order to be a company that promotes innovation, human resources practices are needed to activate and support the creativity of employees.

According to the work of OECD, technology; It contains scientific and empirical information that can be directly applied to the production, improvement or use of products and services. Technology is the sum of the information that people use while doing production activities in order to create benefits (Durna, 2002; 11). Technology is the systematic application of information in industry processes. Technology, R&D, production, marketing, sales and after-sales service are all the knowledge and skills that can be used to carry out an industrial process effectively and efficiently (Zerenler et al., 2007: 656). From a production perspective, technology is also defined as the know-how needed to produce a product. Technology is an external variable that can be conceptually separated from innovation (Zerenler, et al., 2007: 654). While innovation is more closely involved in the creation and development of new ideas, technology management focuses on obtaining (spreading) and implementing existing innovations. In this respect, the concept of innovation covers a wider area and includes elements other than



technology. Technological innovation refers to the introduction of new products and processes to the market for the first time or to significant changes in existing products and processes (Güleş and Bülbül, 2004: 27).

Another concept mentioned with technology and innovation, R & D is defined as systematic and creative works aimed at revealing new products and production processes in enterprises. Recognition of R&D is to be the regular work done to acquire new information that will improve science and technology or to produce new materials, products and tools with existing information, to create new systems, processes and services, including software production, or to develop existing ones. (Act. Zerenler, 2007: 653). Innovation processes for the R&D department; The number of resources allocated to this section, the total of financial resources and the investments made determine innovation (Lumpkin and Dess, 1997). The main purpose of the R&D function is to ensure that businesses operating in a constantly changing environment keep up with these changes, help them to develop and grow, and consequently ensure their viability. It is added to this basic purpose to develop new products and processes, to find new areas of use for existing products and materials, to find new production techniques or to improve existing production techniques (Zerenler et al., 2007: 657). It is considered that the R&D function is directly related to innovation, technology use and development. R&D activities require a creative thinking and systematic study. In order for the inventions to emerge as a result of the R&D activities of the enterprises, to become innovative, not only a technical view targeting technological innovations is sufficient, but also they must be marketable.

The invention can be realized at the same time as a result of a research process (Freeman and Soete, 2003: 7). To fully function an invention is to successfully transform it into innovation (Audretsch and Lehmann, 2005: 282). The main feature that distinguishes innovation with the invention is to change the processes and convert them into value based on the pre-existing product and / or a new idea (Sarihan, 1998). Innovation is the implementation and commercialization of the invention. The difference between invention and

innovation are technical features. The invention has more technical features than innovations. Innovation, on the other hand, is a concept that is very active, dynamic, open to development, has many application areas, and has economic aspects that are predominant. The innovation is a trigger factor. The invention generally results from a research activity. Only one out of every ten inventions revealed as a result of R&D activities has a chance to be applied commercially, that is, it can turn into innovation (Özçer, 2005: 15). When the relationship between innovation and invention is examined by considering creativity; Producing information by linking between thoughts is defined as "creativity", finding the absence, "inventiveness", a new practice, or applying new ideas to practice in practice. If the purpose of creativity is invention, the aim of innovation is to implement the invention. (Özçer, 2005: 13). It is possible to talk about a successive linear relationship between creativity, invention and innovation.

The patent is a right granted to the inventor and protects the patent owner against the savings of third parties such as producing and selling the product of the invention. Patent protection is only for a limited time frame. In case the owner or organization of the patent can convert and sell its invention to a product, monopoly price is applied and monopoly profit can be obtained. During this period, excessive profits are in question. With the removal of legal patent protection, other firms can also enter the production of the same product (Karaöz and Albeni, 2004: 3). For this reason, companies that invest heavily in R&D can both make inventions, protect these inventions against their competitors for a certain period of time, and transform their inventions into innovations and gain significant competitive advantages against their competitors. In order for an enterprise to produce innovations and ultimately to obtain patents related to this product, it must have a certain infrastructure. The innovative company tries to prevent the imitation and reach the planned profit by protecting the emerging innovation through patents. Increasing the duration of the patent affects the market structure (Dosi et al., 2008). As the patent duration increases, the number of companies operating in the market decreases. The patent period is 20 years on average. With the end of the patent period, the number of firms imitating the product decreases to the

number of innovative firms (Dosi et al., 2008).

## **2.4.2 Types of Innovation**

### **2.4.2.1 Behavior Innovation**

Behavior innovation can be at different levels, such as individuals, teams, or management. The behavioral innovativeness of an organization cannot be successful from time to time by examining innovation events or by examining the innovative behavior of small groups within the organization. Behavioral innovation dimension should reflect continuous behavioral change within the framework of the organization's innovation and behavioral commitment (Avlonitis et al., 1994).

Individual innovation can be interpreted as an optional change in personality structure (Hurt and Teigen, 1977). Team innovation is the adaptation of the team for change. This is not only the sum of innovative individuals, but a synergy based on group dynamics. Behavioral innovation shows management's desire for change and determination as well as encouraging the desire of new ideas (Rainey and Steinbauer, 1999). Behavioral innovativeness provides a general development of internal perception among individuals, teams and management regarding the formation of innovative culture and the emergence of new ideas. Behavioral innovation is one of the main factors providing innovation outcomes. While the lack of behavioral innovation prevents innovation, innovative culture acts as a catalyst of innovation (Wang and Ahmed, 2004).

### **2.4.2.2 Process Innovation**

Process innovations are technological information, devices and tools that are new to a unit, organization or industry and are used to translate inputs into outputs. Product innovations include services and products produced for the benefit of the customer. Process innovation provides a significant reduction in time and process cost, as well as increasing the level of service, flexibility and quality (Seyrek, et al., 2008). Process innovation enables creating new products and constitutes the infrastructure of the new product. In this context,

the basic understanding of process innovation is to put the business studies in an efficient and effective way. The introduction of an automatic check-in system within the computer environment in health institutions is a “innovation” that has saved both patients and employees (Hjalager, 2010).

Health institutions provide significant benefits in accessing new markets and increasing their profits, efficiency and efficiency, gaining competitive advantage, and using information technologies and the Internet (Yilmaz, 2005 and Dionyssopoulou & Manousakis, 2011).

Process innovation refers to the changes in the way the services and products are offered and their production. It covers the entire business and is carried out with the opinions of the staff at each level. Process innovation is an integral part in product innovation and one complements the other (Top, 2008).

#### **2.4.2.3 Product and Service Innovation**

It defines a product of a good or service offered to the customer or customer (Barras, 1986). Product or service innovation is defined as a product or service as a good offered to the customer. In innovation research, there is generally no difference between product and service innovation, service innovation offered by organizations in the service sector is defined as the product in the concepts defined by the manufacturing sector (Sirilli & Evangelista, 1998). Product innovation includes all products developed or improved to meet the expectations and needs of consumers. In general, the term product innovation is used for the newly developed product, but it is used within the product resulting from the improvement of the existing product. In order for the organization to be competitive in the market, it must constantly develop or improve its product. Product innovation means that the organization is known for its product among its stakeholders. New products create great opportunities for businesses to expand and grow in new areas.

In addition, when defining product innovation and service innovation, the most important difference between product and service innovation is that product innovation is tangible and service innovation consists of abstract

elements. Product innovation takes place in two ways. The first is to develop a product that has not been before and to put it on the market, and the second is to present the product to the market by making changes and differences in existing goods and services. This will enable the organization to gain a competitive advantage over competing organizations by increasing the value of both the newly developed products or the products or services that are differentiated by improvement and their value (Hjalager, 2010).

Significant improvements in the methods of providing services are defined as adding new features to existing services or developing a new service with all (Oslo Manual, 2005). Newly developed or significantly improved and modified service, significant changes in the delivery and distribution of the service can be defined as service innovation. Such changes and improvements in the service sector require organizations to be restructured in terms of human resources, technology and organizational capabilities in accordance with the conditions. Organizations that develop continuous service innovations, with another approach, organizations with high service quality can develop faster than their competitors. Factors such as the effective use of distribution channels and the use of advanced technology in the production and distribution process of services provide important advantages over competitors in the development and implementation of service innovation in order to meet the expectations and demands of the customers on time in a fast and high quality (Pryce, 2007).

Especially in organizations operating in the service sector, it is vital that new services are brought to the market on time. Service innovations are one of the most important tools of organizations in terms of capturing the changes in the technological and competitive conditions of the age and being superior to their competitors. For these reasons, organizational structuring, new technological practices, strategic approaches in management, the development of organizational culture, leadership and their production together are directly related to developing a successful service innovation (Çağlıyan, 2009).

#### **2.4.2.4 Market Innovation**

Market innovation can be easier and cheaper for an organization compared to product innovation. Market innovation can enable the organization to penetrate the market, increase sales revenues and renew its position. Oslo Manual (OECD, 2005) defines market innovation as important changes in product design or packaging, product placement, product promotion or pricing. Oslo Manual (OECD, 2005) emphasizes market innovation as being able to open up to new markets, reach customer needs and reposition products in the market to increase sales. Akyos (2006) believes that market innovation is marketing techniques and new sales. Market innovation includes marketing production performance, production system and service. Another view defines market innovation as non-technological innovation and they must make market innovation to increase their efficiency (Polder et al., 2010). Developing new methods, techniques and marketing tools will have a very important role in organizational success.

#### **2.4.2.5 Strategic Innovation**

With the global development, the rapid development that goes far beyond the mind in technology, the fast and free movement of technology and human power, and the increase in consumer expectations as a result of the rapid change in the lifestyles of the consumers force organizations to be innovative. For this reason, innovation is the most important competitive tool of organizations. However, organizations need to innovate in order to provide sustainable competitive advantage, develop new product categories, create new and important values for their customers, and create new service or business models (Satı and Işık, 2011; Uz Kurt, 2010).

Today, organizations have to be innovative if they want to compete. Innovation is not only developing new products or services or new technologies, but also finding new business models in the face of change. The game rules in the frequently changing market have been the dominant themes of strategic innovation, the impact of information and communication on trade, and globalization in the strategy literature since the late 1990s. The

primary issue is how to get competitive advantage through strategic innovation by using new game strategies to cope with increased globalization and rapid technological change. Strategic innovation shows researchers how to use new game strategies to create and create new values. However, in order to implement innovation in organizations, appropriate strategies are needed, and if appropriate strategies are not developed, it is stated that innovation is negatively affected (Mone, et al., 1998). In the business world where change is rapidly advancing, the most important skill that can create a competitive advantage and become the main talent status of organizations that can follow the change and its adaptation becomes more difficult is innovation together with technology and knowledge (Prahalad, 1993; Nadler and Tushman, 1999; Eisenhardt and Martin; 2000). Strategic innovation is the development of new business models for reshaping the market and changing the rules of the game and the nature of competition (Berber, 2008). Organizations fulfill important tasks in increasing costs, increasing sales, increasing market share, increasing distribution number and profitability with improved distribution performance, good production planning, shortening time to market for new products, increased productivity with increased distribution and good use of resources (reducing costs), Dobni, 2010).

## **2.5. Innovation in Healthcare**

Supply-demand balance in health sector differs from other sectors. Demand in the health sector has a dual structure. Although the patients are in the demand direction of the market, the doctor decides on the treatment and health service they need and determines the demand. On the other hand, the government intervenes in terms of pricing and reimbursement conditions of the demanded goods and services as required by its public responsibility. This different structure of the health sector causes it to differ from other sectors in the process from the creation of the innovation activities to its commercialization. increasing health demands of the population in the health sector innovation From the perspective of Turkey, geographically also increases due to the proximity of the existing potential of the Middle East and the Balkans. Turkey compared to other countries; When the economic

indicators of the health sector are analyzed, the value of goods and services produced in the health sector in developed economies in the Gross Domestic Product (GDP) is 7% and the employment rate created in the sector is around 10%. It is calculated that the ratio of total health expenditures to GDP will increase to 16% in 2020. The rapidly growing health sector is one of the biggest sources and users of innovative technologies (TÜSIAD, 2011).

The main purpose of the social policies and health system is to increase service availability. Innovation increases accessibility in healthcare. Turkey supports the health sector by improving the state with the increase in access to health and health policy in recent years. When innovation, product and service development, ownership and environmental factors are examined, it is seen that our country is not efficient enough in this regard. The solution of this problem is possible with the incentive to have new health investments with foreign capital in our country and thus to create a sustainable health economy. health sector in Turkey, adequate legislation, if infrastructure and application support is provided, and breakthrough potential of a business that can be compared with developed countries in the development and implementation of innovative products and technology will reach the capacity to mobilize.

Increasing healthcare costs in the health sector is the best formula for resolving the current account deficit in health insurance, and the proliferation of R&D-based production in healthcare. The health sector, where R&D expenditures are high, is at a very important point in this regard. Therefore, clinical research, which has significant R & D budget in this area is considered as an opportunity for the withdrawal of Turkey. if provided the support needed foreign capital to be invested in government R & D staff in Turkey is a fact that will create employment. In environments where price and / or data protection do not adequately support investments by the government and private sector, there are examples such as health sector companies not launching innovative products or even making a decision to exit the market. state in Turkey, starting at the end of the innovation process in the health sector through R & D activities at all stages until the market is



active and decisive stakeholders involved. For this reason, it has to plan the different tools and opportunities it has in each of these stages together with other stakeholders. It is critical in this process that the regulatory role of the public is based on predetermined policy and implementation priorities (TÜSIAD, 2011).

In a 2017 survey conducted by the independent auditing firm Deloitte which Turkey is a developing subject and innovation, including in the health sector in other developed countries it was examined. Accordingly, four basic parameters are set for supporting innovation. These parameters are listed as product / service development, ownership, access and environmental factors. Turkey's countries and advanced developing countries to be included, within the last four parameters were investigated bet. Sub-components of each parameter were determined and evaluated according to objective criteria. The evaluations were answered according to the questionnaires. Turkey Statistical Institute (TUIK), also supported by the process according to the study of the health transformation as a result of positive satisfaction from 39.5% in 2003 in the public health services in 2010 increased to 73%. However, product / service development, ownership and environmental factors in 2017, when Turkey lags behind many countries studied (Deloitte, 2017). As a result, other developing countries in access to Turkey's health is above average, but it is observed that there is more behind the other three criteria.

## **2.6 Concept of Performance and Effect of Total Quality Management and Innovation on Performance in Hospitals**

### **2.6.1 Performance Concept and Related Disclosures**

The word performance is defined as the amount of services or goods produced within a certain time period and is expressed as a result of the connections between the motivation and ability of the person, as well as concepts such as efficiency, output, effectiveness according to their functions. At the same time, the performance of the employee; It is the product that the organization obtains as a result of the actions and actions

related to its duty in order to achieve the aims it wants and sets. Performance; Within the scope of the tasks taken within the enterprise, it is the whole of the services, goods or ideas put forward in order to fulfill the tasks determined in the past and to achieve the intended or expected target. (Helvacı, 2002: 156).

Performance is the results obtained with the activities performed in line with a planned process in order to reach certain targets (Gençay, 2010: 6). In an enterprise, which is an organization, the concept of performance is the evaluation of the efforts made to achieve the common goals of all parts of the enterprise as a whole (Dilmaç, 2011: 6). When the literature is analyzed, it is seen that the performance has seven dimensions in return for the business (Akal, 2005: 34):

- 1) **Effectiveness:** It is the performance dimension that determines the level of achieving these targets as a result of the practices and activities carried out to reach the determined targets. In other words, the activity is “choosing and doing the right activities”. The activities mentioned here should be determined for the right purposes (Akal, 2005: 34).
- 2) **Yield and Utilization of Resources:** An enterprise is the equivalent of the degree of utilization of production resources. Yield; It is the performance dimension that shows to what scale these production resources can be used.
- 3) **Productivity:** Productivity is a dimension that shows the ratio of resources used by a business to production after a certain period of time. In other words, it is the ratio of input to output (Akal, 2005: 47).
- 4) **Quality:** As stated in the first part of the research, there are many definitions about quality, if we summarize from these definitions, quality is the degree of meeting and satisfying the demands and potentials of any product class in terms of its own characteristics and economics.

- 5) Quality of Work Life:** Often the quality of work or work life, the working environment and conditions related to the work life of the employees, the earnings and wages resulting from the work, the technology used in the work, industrial relations, the management and organization of the work, the satisfaction of the worker's life and is a concept that combines elements such as motivation, participation of the employee in all functions of the business, social justice and social security offered from the enterprise, and continuing education that offers to the employee. The quality of work affects the work directly or indirectly.
- 6) Innovation:** As stated in the previous sections, innovation in enterprises is “adding new and more value to all the resources used in the system created for the continuation of the business” by the enterprise, “presenting the idea, system, program, product, service or process for the first time”. can be defined with expressions. It is very difficult to directly measure the contribution of innovation to performance. The contribution of innovation to performance can be measured with indicators developed in areas such as new methods developed in the design and production process, the subjects that businesses are leading in their sectors, and their image in the public (Akal, 2005: 53-58).
- 7) Profitability and Compliance with Budget Profitability:** Briefly, it can be defined as the difference between the income and expenses of the business. Profitability is an easily measured and understandable indicator. Efficiency and efficiency should be considered as an integral part of profitability. It means that profitability has already been achieved in effective and productive organizations. It is used as a performance indicator in an organization that does not accept a measure of compliance with the budget or not for profit. The fact that the difference between the values planned to reach the purpose of the enterprise and the values realized as a result of the production is low indicates that the enterprise has high budget

compliance performance. On the other hand, compliance with the budget contributes to future performance planning as well as helping to take corrective measures to achieve higher performance (Akal, 2005: 63-64).

### **2.6.2 Total Quality Management and Performance Relationship in Healthcare Sector**

TQM benefits both organizational and individual performance with its benefits in the health sector. The advantages of TQM, which provides many facilities in the processes of organizations, in terms of performance according to Taguchi et al. (2005) are as follows:

- The effectiveness and efficiency of the health institution increases,
- With the use of medical equipment, performance increases with the impact of the service offered by employees.
- The budget allocated on the orientation of the employees is determined in a more systematic way and the training needs are met and the performance is aimed to be increased.
- With TQM, more reliable and accurate planning is made for human resources.
- The development potential of healthcare professionals is determined and steps are taken accordingly.
- With the philosophy put forward by TQM, the quality of service focused on patient satisfaction improves and the problems such as absenteeism and labor turnover are eliminated.

In the health sector, TQM, however, enables the management staff to be more clearly and clearly aware of the performance they expect from employees and what their expectations are from their duties. The fact that managers give more constructive and objective feedback to healthcare

professionals, plan and guide their personal development and training more effectively, directly affects the performance as it increases the organizational loyalty, commitment and job satisfaction of the employees. More efficient organizational communication, which is one of the goals of TQM, is an important variable in terms of performance. Communication problems that do not occur between the employees and the management team affect each element of the organization negatively. The locking of the TQM and the organization as a whole set the ground for employees and managers to focus on a team work other than personal benefit as a single piece. The potential benefits that employees can give to the organization in this context are also possible with the correct evaluation of their performance.

TQM also has a mission to collect and analyze data on performance outputs and data to improve service quality in healthcare organizations. In this context, measuring performance correctly is one of the goals of TQM. Performance evaluation provides feedback to individuals and teams based on their performance outcomes (Barutçugil, 2005: 158). Performance evaluation is a system that measures the performance of employees, determines the probable problems that may occur, and takes all necessary precautions to eliminate these problems, determines the criteria to be taken into consideration while making the audits of the employees, and emphasizes job satisfaction according to Civelek et al. (2012) can be seen as one of the main elements.

TQM supports the systematic and systematic follow-up of the achievements, personal qualities and development potentials of those working in the health sector. In other words, it is important at this point to make a judgment about the performance of the employees. In addition, focusing on basic responsibilities, role behaviors and organizational behaviors related to working life, TQM aims to optimize the performance of the organization and individuals. According to Sabuncuoğlu (2008), it is important to determine not only the efficiency of the employees in business life, but also the success of the employees as a whole in terms of the perspective of TQM on performance. Investigating whether employees' abilities are suitable for their

job requirements and qualifications or revealing their success in the given responsibilities can be understood through objective analysis and findings, and understandable and accurate analyzes directly affect performance evaluation and performance.

One of the focal points of the TQM process is firm performance. The adoption of the TQM philosophy in healthcare institutions begins in the focus of quality and ends with quality as well as all the practices related to it. Since incompatibility of employees with their organizations may negatively affect the peace and structure of the organization, TQM; It tries to improve performance as a priority and then to increase the compliance and participation of healthcare professionals in the organization. Therefore, performance TQM is a very important philosophy in terms of organizational and individual performance.

### **2.6.3 The Relationship Between Innovation and Performance in the Health Sector**

There is a need for brains that can combine creative ideas with appropriate technology and create opportunities by making them ready for use. (Samen, 2008: 368). Although innovation can emerge with the interaction of creative individuals as a process, innovation must have a commercial dimension and a market value for the business. (World Bank Report, 2005). This situation is of great importance for the health sector in the service sector, which is one of the markets where new and innovative treatment methods and applications of these methods are offered to customers. In the global data analysis conducted in 1997, while the life expectancy of the world population over 60 years old was 64%, this expectation became 71.4 on average in 2015. (WHO, GHO Data, 2016). The basis of this increase in the life expectancy of the world population over the age of 60 lies both in theoretical terms and in the field of service provision, improving, developing and making it more widespread with new techniques. As these developments are taken into consideration for Turkey, It is observed that the share of the private sector in the provision of health services has increased day by day and gained importance in terms of institutions.

Innovation in the health service delivery market is the dynamic force to achieve and maintain the quality-cost balance in health services. In this context, innovativeness is one of the basic elements to increase efficiency and effectiveness in the health sector and to gain competitive advantage. (Omachonu ve Einspruch, 2010:2).

Increases in financial orientation in the health sector have simultaneously affected other changes. All these developments, such as the increase in the number and quality of healthcare professionals in the health sector, the increase in the number of device and equipment manufacturers, have led to results such as increasing the use of innovative technologies in the health sector and increasing costs. (Oslo Guide, 2017: 41)

Factors that increase the cost emerge as financial, population-dependent, operational, regulatory and innovative. Increasing costs may not always be a negative situation. Because innovativeness, which is one of the factors that increase the cost, can create a suitable environment for new treatments and innovative technologies, and can cause both the development of this sector, which plays a major role in human life, and the reduction of costs calculated in the long term. (Deloitte, 2016:2).

Increasing health expenditures with the increasing demand for healthcare services, controlling costs and increasing the efficiency of health services bring the need for innovation. (Oslo Guide, 2017: 42).

Hospitals, one of the main institutions of the health sector, have to be innovative in order to compete and continue their activities and to meet the demands and needs of patients, healthcare professionals and stakeholders. (Boutros, 2007: 51). To give an example of innovation practices in health services; Mercury thermometers, which measure temperature under the armpit, are not hygienic due to the fact that they can fall and break easily and they can be used by different people, which has led to the development of remote measuring thermometers as an innovation (Sarioğlu, 2014:20).

Anne Cleven et al. (2016) experimentally tested the impact of process orientation on the competitiveness and performance of hospitals through a

questionnaire-based questionnaire between the clinical and administrative management of hospitals in Switzerland. Analysis of 145 questionnaires from 129 hospitals confirm that process orientation significantly improves hospital performance.

Developments in communication and information technologies, which cause patients and patient relatives to behave more selectively and consciously, have increased access to information. Thus, when patients and their relatives are sick and have to get health services, instead of receiving treatment from the nearest hospital in their region, they prefer more comfortable health institutions that provide better and higher quality service, and this causes a very important competition among health institutions (Gaynor and Town, 2012: 60).

The results of the study, conducted with data collected from 239 hospitals with more than 100 beds in South Korea, show that the positive effects of operational innovation on quality management practices also have positive effects on organizational performance (Lee DonHee, 2015).

In the research conducted in the Malaysian health sector, the questionnaires distributed to the managers of Malaysian hospitals were analyzed with the SEM technique and approved as "There is a positive and directly significant relationship between organizational performance and process innovation practice in the Malaysian health sector." Nurul Fadly Habidin et al. (2015)  
R.A. Moreira ve arkadaşları

Maria et al. (2017) investigated the innovativeness-performance relationship experimentally by applying factor analysis and hypothesis testing by quantitative analysis of 34 Portuguese hospitals and collecting detailed information about the innovation portfolio, and in the study, which analyzed whether they affect performance measures in healthcare institutions, they said that service and process innovations affect operational performance.

Tugba Gurcaylilar-Yenidogan and Safak Aksoy (2020) examined the relationship between innovation and firm performance from a multi-dimensional perspective and they addressed the question of under what



conditions innovation leads to improved financial performance. In their studies that clarify the contradictory results in the innovation-financial performance link and thus contribute to the innovation literature: they found that non-technical innovativeness has a positive effect on technical innovativeness, and that while the innovation of technical innovation activities causes a diminishing effect on financial performance due to the uncertainty of creating value, the relationship between technical innovation, technical innovation and financial performance increases financial performance when it occurs with market efficiency and production efficiency.

Innovation in healthcare services helps to reduce costs, increase income, and because the general therapeutic methods may be the same in the treatment of patients, it responds to patient-oriented practices that help them show their difference in healthcare services unlike other competing healthcare enterprises, allowing them to stand out from competitors. In other words, the application of the innovation approach appears as a concept that affects the hospital preferences of the patients and plays a certain role, together with the satisfaction of the service users and the satisfaction statements spread by word of mouth.

Since innovation in hospitals serving in the field of health directly affects the human health involved in the process, although it is not easy to be accepted and applied immediately, as it can cause human life even in minimal applications, it can increase the efficiency and productivity of health institutions, and it affects the performance positively by providing the same service with a single employee or less than the number of employees, faster and higher quality.

In the health sector, when the patient steps into the door of the hospital where he / she wants to receive service, it is seen that the understanding of innovation has an undeniable and important effect on the treatment method to be applied following the patient registration and the diagnosis of the patient, the patient care services that may affect the patient and the patient's relatives the most, and the hospital operation at all stages until the patient is discharged.

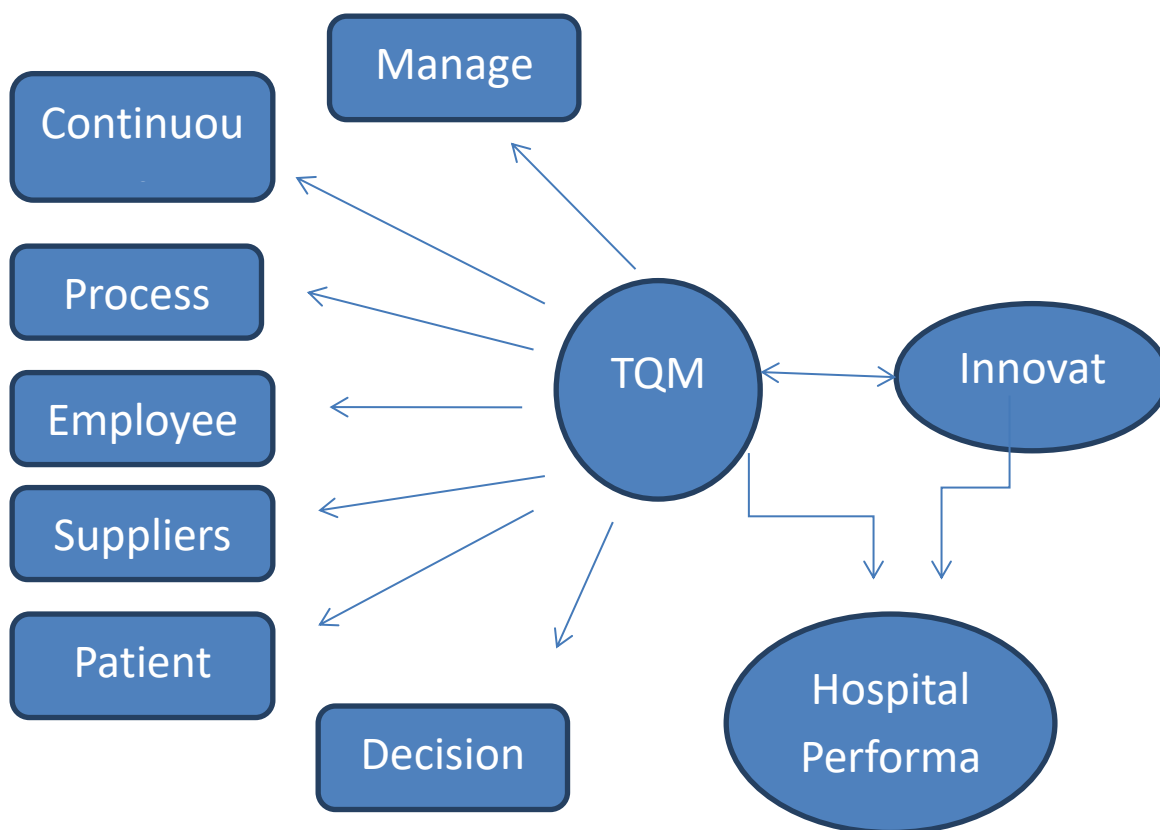
In addition to this, by providing a higher quality, effective and efficient service in innovation health enterprises; It has a positive effect on patient and employee satisfaction and hospital performance.

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Research Model of the Study**

In this research, relational screening model, which is one of the quantitative research methods, was used. The relational screening model is research models that aim to determine the presence or degree of co-variation between two and more variables. Relational screening models are research models that aim to determine the presence and / or degree of co-variation between two and more variables. In such an arrangement, variables to be searched for are individually symbolized, as in single scans. However, this symbolization (giving values, measuring) is done as pairs of data that will allow for a relational analysis. In one view, everything that exists in the world is interrelated. In this order of relationships, which resembles a spider web, an effect at any point in the web is reflected in varying dimensions. Relational screening models have many application areas. Intelligence levels and academic success levels of individuals; smoking habit and lung cancer; socioeconomic level and number of children in the family, education level and party preference; Relationships such as gender and party preference are the common application areas of this relational screening model. Relationships found through screening cannot be interpreted as a real cause-effect relationship; but by giving some clues in that direction, it can help predict the other if the situation in one variable is known. The relationship between the variables can be either interdependence or partial dependence, or it may be in the form of full independence because it is one end that affects both because of the variable (Karasar, 2016). Accordingly, the model of the research is shown in Figure 3.1.



**Figure 3.1:** Model of the Research

According to Figure 3.1, independent variables of the research are Total Quality Management and Innovation. The dependent variable of the study is hospital Performance.

### 3.2 Research Hypotheses

The hypotheses prepared for the purpose of the research are as follows:

H1: There is a significant relationship between innovation and TQM practices in hospitals.

H2: TQM practices carried out within the scope of management leadership in hospitals have an impact on hospital performance.

H3: TQM practices made within the scope of decision making approach in hospitals have an impact on hospital performance.

H4: TQM applications carried out within the scope of the process approach in hospitals have an impact on hospital performance.

H5: TQM practices carried out within the scope of continuous improvement in hospitals have an impact on hospital performance.

H6: TQM practices carried out within the scope of the participation of employees in hospitals have an impact on hospital performance.

H7: TQM practices carried out within the scope of relations with suppliers in hospitals have an impact on hospital performance.

H8: TQM practices carried out within the scope of patient-focus approach in hospitals have an impact on hospital performance.

H9: Practices carried out within the scope of innovation in hospitals have an impact on hospital performance.

### **3.3 Universe and Sample**

The universe of the research is the chief physician, deputy chief physician, hospital manager, deputy hospital manager and hospital quality coordinator of 31 private hospitals operating in Ankara in 2018. As the sampling selection method, one of the purposeful sampling methods was chosen easily. According to this technique, data is collected by interviewing the subjects with the appropriate profile, which is the most easily accessible, to provide the sampling in the volume required for the researcher study (Gürbüz & Şahin, 2016). Those who signed the informed consent form and obtained their consent were included in the study. The data were collected through a questionnaire from managers who meet the criteria of the research in private hospitals in the city of Ankara, Akyurt, Altındağ, Ayaş, Balâ, Beypazarı, Çamlıdere, Çankaya, Çubuk, Elmadağ, Etimesgut, Evren, Gölbaşı, Güdül, Haymana, Kahramankazan, Kalecik, Keçiören, Kızılcahamam, Mamak, Nallıhan, Polatlı, Pursaklar, Sincan, Şereflikoçhisar ve Yenimahalle.

Inclusion criteria was determined as;

1. Being a manager in private hospitals for at least 1 year,
2. The hospital in charge has been operating since 2006 at the latest,
3. Providing inpatient care services in the hospital where the duty is assigned.

Exclusion criteria from the study was determined as;

1. Being a manager in health institutions other than private hospitals,
2. Being a manager in private hospitals for at least 1 year,
3. The commissioned hospital starts operating in 2006,
4. Inpatient care service is not provided in the hospital in charge.

In the research, it is aimed to reach all the units in the universe. There are 155 managers with these qualifications in total according to the number of administrative groups and hospitals of the research. If the entire universe is planned to be reached, 137 managers agreed to contribute to the study. Accordingly, the sample of the study represents the universe at the rate of 88.3%.

### **3.4 Data Collection Tools**

In the research, a questionnaire form was used as a data collection tool. Face to face interviews were made with the units in the sample group of the research. The questionnaire form used in the research consists of 4 parts. Dependent variable is hospital performance scale (HPS). Independent variable is innovation scale (IS) for simple regression model and TQM approaches which management leadership (ML), decision making (DM), process (P), continuous improvement (CI), employee participation (EP), suppliers relation (SR) and patient focus (PF) for multiple regression model.

### **3.5 Introductory Features Form**

There are 4 questions in total in order to get information about the gender, age, working time of the health sector and total working time as managers.

### **3.6 Total Quality Management (TQM) Scale**

TQM scale has seven approaches that management leadership, employee participation and process approach transcribe from (Cua, McKone, and Schroeder, 2001), decision making and continuous improvement approach from Kaynak(2003), relation with suppliers and patient focus approach from (Rahman & Bullock, 2005), (Chong & Rundus, 2004), There are a total of 44

items in the scale. Scale items include 5-point Likert-type evaluations. These are "Strongly Disagree (1.00-1.79)", "Disagree (1.80-2.59)", "Neither Disagree Nor Agree (2.60-3.39)", "Agree (3, 40-4,19) "," Strongly Agree (4.20-5.00) ". There is no reverse coded item in the scale. In the studies in which the sub-dimensions were taken, the reliability coefficients of the sub-dimensions were determined as .86, .77, .89, .85, .91, .92 and .84, respectively. (Fuentes-Fuentes, Albacete-Saez, & Montes, 2004).

The suitability of the items of the scale to factor analysis was investigated with KMO Measure of Sampling Adequacy and Bartlett's test. KMO and Bartlett's test results of the scale are shown in Table 3.1.

**Table 3.1.**

*KMO and Bartlett's Test for TQM Scale*

<b>Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy</b>		0,853
<b>Barlett's Test</b>	<b>Approx. Chi-Square</b>	2814,707
	<b>Degree of Freedom</b>	946
	<b>Significance</b>	0,000

The KMO Measure of Sampling Adequacy was performed to check the suitability of the Total Quality Management (TQM) Scale for factor analysis was found to be 0,853. In addition, Bartlett's test was found to be significant ( $p < 0.05$ ) and it was determined that the scale provided the appropriate conditions for factor analysis.

Factors and factor load values resulting from the factor analysis applied for the variables to measure the total quality management levels of the hospitals are given in Table 3.2.

**Table 3.2.***Results of Factor Analysis For TQM Scale*

Items	Factors						
	1	2	3	4	5	6	7
DM5	0,815						
DM 4	0,804						
DM 3	0,744						
DM 1	0,725						
DM 2	0,699						
DM 6	0,665						
DM 7	0,602						
DM8	0,599						
P2		0,715					
P7		0,705					
P6		0,645					
P3		0,625					
P4		0,577					
P1		0,555					
P5		0,504					
PF2			0,799				
PF5			0,689				
PF3			0,687				
PF7			0,602				
PF1			0,591				
PF4			0,581				
PF6			0,554				
ML1				0,715			
ML2				0,689			
ML6				0,655			
ML4				0,602			
ML5				0,578			
ML3				0,518			
CI2					0,791		
CI3					0,712		
CI1					0,683		
CI4					0,575		
CI5					0,560		
CI6					0,505		
EP1						0,715	
EP5						0,702	
EP2						0,685	
EP3						0,655	
EP4						0,625	
SR2							0,615
SR3							0,602



<b>SR4</b>	0,585
<b>SR4</b>	0,555
<b>SR1</b>	0,502

As a result of the factor analysis applied for the TQM scale, it was observed that the scale items were in agreement with the literature.

The variance amounts announced as a result of the factor analysis applied for the TQM scale are presented in Table 3.3.

**Table 3.3.**

*Variance Explained as a Result of Factor Analysis Applied for TQM Scale*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	%Variance	Cumulative %	Total	%Variance	Cumulative %
1	6,615	23,111	23,111	6,615	14,212	14,212
2	5,142	15,455	38,566	5,142	11,047	25,258
3	4,314	5,335	43,901	4,314	9,268	34,526
4	3,295	3,123	47,024	3,295	7,079	41,609
5	2,221	2,267	49,291	2,221	4,772	46,377
6	1,744	2,112	51,403	1,744	3,747	50,124
7	1,251	1,409	52,812	1,251	2,688	52,812

The amount of variance announced as a result of the factor analysis applied for the variables to measure the attitudes of the hospitals regarding total quality management was calculated as 52.812% and 7 (seven) sub-dimensions were determined.

Cronbach Alpha reliability coefficients of the scores obtained from the sub-dimensions of the TQM scale are shown in Table 3.4.

**Table 3.4.***TQM Scale Reliability Coefficients*

<b>Variables</b>	<b>Cronbach's Alpha</b>	<b>Number of Items</b>
<b>ML</b>	0,781	6
<b>DM</b>	0,726	8
<b>P</b>	0,786	7
<b>CI</b>	0,734	6
<b>EP</b>	0,726	5
<b>SR</b>	0,779	5
<b>PF</b>	0,714	7

According to Table 3.4, since the reliability coefficients of the sub-dimensions of the scale are greater than 0.60, it can be stated that the scale and its sub-dimensions are reliable.

**3.7 Innovation Scale**

The scale was adapted from the study by Fuentes, Saez and Montes (2004). There are 11 items in total in the scale. Scale items include 5-point Likert-type evaluations. These are "Strongly Disagree (1.00-1.79)", "Disagree (1.80-2.59)", "Neither Disagree Nor Agree (2.60-3.39)", "Agree (3, 40-4,19) ", "Strongly Agree (4.20-5.00) ". There is no reverse coded item in the scale. The reliability coefficient of the scale was reported as .92.

The suitability of the items of the scale to factor analysis was investigated with KMO Measure of Sampling Adequacy and Barlett's test. KMO and Barlett's test results of the scale are shown in Table 3.5.

**Table 3.5.***KMO and Bartlett's Test for Innovation Scale*

<b>Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy</b>		0,777
<b>Barlett's Test</b>	<b>Approx. Chi-Square</b>	381,073
	<b>Degree of Freedom</b>	55
	<b>Significance</b>	0,000

The KMO Measure of Sampling Adequacy was performed to check the suitability of the Innovation Scale for factor analysis was found to be 0,777. In addition, Bartlett's test was found to be significant ( $p < 0.05$ ) and it was determined that the scale provided the appropriate conditions for factor analysis.

Factors and factor load values resulting from the factor analysis applied for the variables to measure the innovation levels of the hospitals are given in Table 3.6.

**Table 3.6.**

*Results of Factor Analysis For Innovation Scale*

Items	Factors 1
IS6	0,698
IS3	0,698
IS1	0,622
IS10	0,616
IS2	0,597
IS11	0,588
IS8	0,570
IS4	0,559
IS7	0,545
IS5	0,489
IS9	0,451

As a result of the factor analysis applied for the Innovation scale, it was observed that the scale items were in agreement with the literature.

The variance amounts announced as a result of the factor analysis applied for the Innovation scale are presented in Table 3.7.

**Table 3.7.**

*Variance Explained as a Result of Factor Analysis Applied for Innovation Scale*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	%Variance	Cumulative %	Total	%Variance	Cumulative %
1	5,820	56,173	56,173	5,820	56,173	56,173

The amount of variance announced as a result of the factor analysis applied for the variables to measure the level of the innovation was calculated as 56,173% and 1 (one) sub-dimension was determined.

As a result of the internal consistency analysis, the Cronbach Alpha coefficient was determined to be 0.809.

### **3.8 Performance Scale**

The scale was adapted from the study by Fuentes, Saez and Montes (2004). There are 121 items in total in the scale. Scale items include 5-point Likert-type evaluations. These are "Strongly Disagree (1.00-1.79)", "Disagree (1.80-2.59)", "Neither Disagree Nor Agree (2.60-3.39)", "Agree (3, 40-4,19) ", "Strongly Agree (4.20-5.00) ". There is no reverse coded item in the scale. The reliability coefficient of the scale was reported as .75.

The suitability of the items of the scale to factor analysis was investigated with KMO Measure of Sampling Adequacy and Barlett's test. KMO and Barlett's test results of the scale are shown in Table 3.8.

**Table 3.8.***KMO and Bartlett's Test for Performance Scale*

<b>Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy</b>		0,841
<b>Barlett's Test</b>	<b>Approx. Chi-Square</b>	542,633
	<b>Degree of Freedom</b>	66
	<b>Significance</b>	0,000

The KMO Measure of Sampling Adequacy was performed to check the suitability of the Innovation Scale for factor analysis was found to be 0,841. In addition, Bartlett's test was found to be significant ( $p < 0.05$ ) and it was determined that the scale provided the appropriate conditions for factor analysis. Factors and factor load values resulting from the factor analysis applied for the variables to measure the performance levels of the hospitals are given in Table 3.9.

**Table 3.9.***Results of Factor Analysis For Performance Scale*

<b>Items</b>	<b>Factors 1</b>
<b>HPS3</b>	0,733
<b>HPS11</b>	0,719
<b>HPS10</b>	0,693
<b>HPS12</b>	0,682
<b>HPS9</b>	0,651
<b>HPS8</b>	0,651
<b>HPS1</b>	0,639
<b>HPS2</b>	0,596
<b>HPS4</b>	0,557
<b>HPS7</b>	0,543
<b>HPS5</b>	0,488
<b>HPS6</b>	0,466

As a result of the factor analysis applied for the Performance scale, it was observed that the scale items were in agreement with the literature.

The variance amounts announced as a result of the factor analysis applied for the Performance Scale are presented in Table 3.10.

**Table 3.10.**

*Variance Explained as a Result of Factor Analysis Applied for Performance Scale*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	%Variance	Cumulative %	Total	%Variance	Cumulative %
1	6,672	60,205	60,205	6,672	60,205	60,205

The amount of variance announced as a result of the factor analysis applied for the variables to measure the level of the performance was calculated as 60,205% and 1 (one) sub-dimension was determined.

As a result of the internal consistency analysis, the Cronbach Alpha coefficient was determined to be 0.854.

### 3.9 Statistical Analysis of Data

In order to ensure appropriate advances in the research processes in the literature, determining the statistical methods to be used is a priority. In the studies that involve more than one dependent / independent variable and the relationships are formed in a complex structure, statistical methods that allow analysis with many variables are used in the analysis of the data (Tabachnick & Fidell, 2011). These techniques can be listed as regression analysis, logistic regression analysis, factor analysis, structural equation modeling and so on (Hair et al., 2010).

In this research, SPSS 20 package programs were used for statistical analysis of the data. The distribution of demographic and working life characteristics of hospital managers participating in the research are shown in percentage and frequency. Validity and reliability studies of the scales were

performed before the analysis of the scores obtained from the scales.

Before the exploratory factor analysis, the factoring technique should be decided. Çokluk, Şekercioğlu and Büyüköztürk (2010) state that the purpose and assumptions of researching the factoring technique should be taken into consideration.

Şencan (2005) stated that in cases where it is desired to determine the basic dimensions and components of the measured concept, it is necessary to perform factor analysis with “principal components analysis” technique.

Before the exploratory factor analysis, KMO test and Barlett's test are performed for the suitability of the data for analysis (Aagja and Garg, 2010). Tabachnick and Fidell (2011) also state that the data to be analyzed prior to analysis should also provide the linearity and normality assumptions. Studies for this are carried out in this section for each measurement tool.

While determining the number of factors, Kaiser (1960) states that groups with eigenvalues greater than one should be taken into consideration, while Özdamar (2004) stated that this value is greater than 0.7. In this study, factors with a value greater than one is considered.

The values that are the reference regarding the subtraction of the expressions in the scale after factoring are factor loads. Factor loads indicate the dimension of their relationship with the sub-dimension they are grouped with. Şencan (2005) rated the factor load reference as follows and correlated the adequacy of the factor loads with the sample volume (Çokluk, Şekercioğlu and Büyüköztürk, 2010):

- If the sample volume is 350 units, the factor load is 0.30;
- If the sample volume is 200 units, the factor load is 0.40;
- If the sample volume is 120units, the factor load is 0.50;
- If the sample volume is 85units, the factor load is 0.60;
- If the sample volume is 60 units, the factor load is 0.70.

Another process for removing the items in the scale starts with the fact that factor load values are less than 0.1 factor load difference in two or more factors (Tabachnick & Fidell, 2011). In this study, if the factor loads were overlapped with less than 0.1 units, the items were removed in order and the contribution (factor load) of a item to the sub-dimension was accepted to be at least 0.50.

Regarding the power of the factor structure, it is stated that the magnitude of the announced variance rate obtained by dividing the factor load values by dividing the number of expressions is a reference to the power (Çokluk, Şekercioğlu and Büyüköztürk, 2010). Scherer et al. (1988), in his study, states that he believes that the variance rate announced in the social sciences research is between 40% and 60% (Çokluk, Şekercioğlu and Büyüköztürk, 2010). In this study, 50% rate was taken as reference for the variance rate opened.

The concept of reliability states that the items in the scale are consistent with each other and that these expressions are sufficient to measure the desired concept (Özdamar, 2004). The concept of internal consistency reliability is determined by the Cronbach Alpha coefficient since it is a concept that shows that the expressions in the measurement tool are homogeneous. (DeVellis, 2003). In the studies in the literature, the Cronbach Alpha coefficient is used the most in determining the reliability of the scale, and values greater than 0.6 of this number are considered (Pai and Chary, 2013).

The average and standard deviation values of the data obtained from the scales were specified in the study. In the investigation of the compliance of the scores obtained from the scales and sub-dimensions to normal distribution, the kurtosis and skewness values were checked and it was determined that the kurtosis and skewness values of all the data in the study were between -1.5 and +1.5 (Tabachnick and Fidell, 2011).

Findings obtained as a result of the research were taken into consideration at the 95% confidence level.

Correlation techniques are used to find the relationship between the two



variables. In the study, the degree and direction of the relationship between total quality management status and innovation attitude were analyzed by Pearson correlation coefficient. The dimensions of the correlations between the subdimensions scores were evaluated according to the intervals below (Kalaycı, 2006):

- 0.00-0.25 Very weak
- 0.26-0.49 Weak
- 0,50-0,69 Moderate
- 0.70-0.89 High
- 0.90-1.00 Very high

On the other hand, simple and multiple regression analysis was applied to determine the impact of TQM and Innovation on hospital performance. Regression analysis of how one variable changes when one variable changes a particular unit is examined and regression models with multiple variables, one dependent and independent, are expressed as multiple regression models (Gürüş and Astar, 2015). In the inclusion of variables into the model, the statistical relationship between the variables has been considered.

## CHAPTER 4

### FINDINGS

#### 4.1 Introductory Characteristics of Participants

The percentage and frequency representation of the descriptive characteristics of the private hospital managers participating in the research are shown in Table 4.1.

**Table 4.1.**  
*Introductory Features of Managers*

<b>Variable</b>	<b>Groups</b>	<b>n</b>	<b>%</b>
<b>Gender</b>	Female	33	24,1
	Male	104	75,9
<b>Variable</b>		<b>X</b>	<b>sd</b>
<b>Age</b>		51,49	7,41
<b>Working Duration In Healty Sector</b>		22,99	6,29
<b>Working Duration In Healty Sector As A Manager</b>		10,12	4,21

75.9% of the private hospital managers participating in the research are men and 24.1% are women. In the study, the average age of the managers was determined as  $X = 51.49$  ( $sd = 7.41$ ). In addition, it has been determined that the managers have been working in the health sector for an average of 22.99 years and have been in the management position for an average of 10.12 years.

## 4.2 Findings Regarding TQM, Innovation and Performance Levels of Hospitals

The average, standard deviation, skewness and kurtosis values of the scores of hospital managers participating in the research from the TQM scale and its sub-dimensions are shown in Table 4.2.

**Table 4.2.**

*Descriptive Statistics of TQM Scale*

<b>Sub-dimensions</b>	<b>N</b>	<b>Mean</b>	<b>Standart Deviation</b>	<b>Skewness</b>	<b>Kurtosis</b>
<b>Management Leadership</b>	137	3,91	0,75	-0,984	1,122
<b>Decision Making</b>	137	3,84	0,95	-0,845	0,752
<b>Process</b>	137	3,58	0,65	0,544	0,258
<b>Continuous Improvement</b>	137	3,46	0,37	0,236	0,369
<b>Employee Participation</b>	137	3,75	1,11	-0,753	0,784
<b>Suppliers Relation</b>	137	3,23	0,49	-1,112	0,654
<b>Patient Focus</b>	137	3,68	0,89	0,299	0,951

According to the evaluations of the managers participating in the research, the average of the scores obtained from the Management Leadership sub-dimension is  $X = 3.91$  ( $sd = 0.75$ ); the average of the scores obtained from the Decision Making sub-dimension is  $X = 3.84$  ( $sd = 0.95$ ); the average of the scores obtained from the process sub-dimension is  $X = 3,58$  ( $sd = 0,65$ ); the average of the scores obtained from the Continuous Improvement sub-dimension is  $X = 3.46$  ( $sd = 0.75$ ); the average of the scores from the Employee Participation sub-dimension is  $X = 3.75$  ( $sd = 0.75$ ); the average of the scores from the Suppliers Relation subscale is  $X = 3.23$  ( $sd = 0.49$ ); the average of the scores obtained from the Patient Focus sub-dimension is  $X = 3.68$  ( $sd = 0.89$ ).

The average, standard deviation, skewness and kurtosis values of the scores of hospital managers participating in the research from the Innovation Scale and its sub-dimensions are shown in Table 4.3.

**Table 4.3.**

*Descriptive Statistics of Innovation Scale*

Scale	N	Mean	Standart Deviation	Skewness	Kurtosis
<b>Innovation</b>	137	3,48	0,75	-0,852	1,258

According to the evaluations of the managers participating in the research, the average of the Innovation scale was found to be  $X = 3.48$  (sd = 0.75).

The average, standard deviation, skewness and kurtosis values of the Performance scores of the hospital managers participating in the research are shown in Table 4.4.

**Table 4.4.**

*Performans Ölçeğinin Tanımlayıcı İstatistikleri*

Scale	N	Mean	Standart Deviation	Skewness	Kurtosis
<b>Performance</b>	137	3,54	0,89	-0,525	0,999

According to the evaluations of the managers participating in the research, the average of the Performance scale was found to be  $X = 3.54$  (sd = 0.89).

### 4.3 Corelation Analysis Between TQM and Innovation

Correlation analysis results of TQM and innovation variables are shown in Table 4.5

**Table 4.5.***Correlation Results Between Hospital Performance and Innovation*

Sub-dimensions		Management Leadership	Decision Making	Process	Continuous Improvement	Employee Participation	Suppliers Relation	Patient Focus	Innovation
<b>Management Leadership</b>	r	1	,674**	,659**	,644**	,598**	,571**	,624**	,672**
	p		,000	,000	,000	,000	,000	,000	,000
<b>Decision Making</b>	r		1	,656**	,678**	,672**	,574**	,627**	,682**
	p			,000	,000	,000	,000	,000	,000
<b>Process</b>	r			1	,716**	,792**	,776**	,719**	,806**
	p				,000	,000	,000	,000	,000
<b>Continuous Improvement</b>	r				1	,647**	,566**	,678**	,721**
	p					,000	,000	,000	,000
<b>Employee Participation</b>	r					1	,630**	,617**	,749**
	p						,000	,000	,000
<b>Suppliers Relation</b>	r						1	,657**	,663**
	p							,000	,000
<b>Patient Focus</b>	r							1	,733**
	p								,000
<b>Innovation</b>	r								1
	p								

\*p&lt;0,05 \*\*p&lt;0,01

There is a positive and moderately statistically significant relationship between the Management Leadership subscale scores and;

Decision Making sub-dimension scores ( $r=0.674$ ), Process sub-dimension scores ( $r= 0,659$ ), Continuous Improvement subscale scores ( $r = 0,644$ ), Employee Participation subscale score ( $r = 0,598$ ), Supplier Relation subscale scores ( $r = 0.571$ ), Patient Focus subscale scores ( $r = 0.624$ ).

There is a positive and moderately statistically significant relationship between the Decision Making subscale scores and;

Process sub-dimension scores ( $r = 0,656$ ), Continuous Improvement subscale scores ( $r = 0,678$ ), Employee Participation subscale score ( $r = 0,672$ ), Supplier Relation subscale scores ( $r = 0.574$ ), Patient Focus subscale scores ( $r = 0.627$ ).

There is a positive and highly statistically significant relationship between the Process subscale scores and;

Continuous Improvement subscale scores ( $r = 0,716$ ), Employee Participation subscale score ( $r = 0,792$ ), Supplier Relation subscale scores ( $r = 0.776$ ), Patient Focus subscale scores ( $r = 0.719$ ).

There is a positive and moderately statistically significant relationship between the Continuous Improvement subscale scores and;

Employee Participation subscale score ( $r = 0,647$ ), Supplier Relation subscale scores ( $r = 0.566$ ), Patient Focus subscale scores ( $r = 0.678$ ).

There is a positive and moderately statistically significant relationship between the Employee Participation subscale scores and;

Supplier Relation subscale scores ( $r = 0.630$ ), Patient Focus subscale scores ( $r=0.617$ ).

There is a positive and moderately statistically significant relationship between the Supplier Relation subscale scores and Patient Focus subscale scores ( $r=0.657$ ).

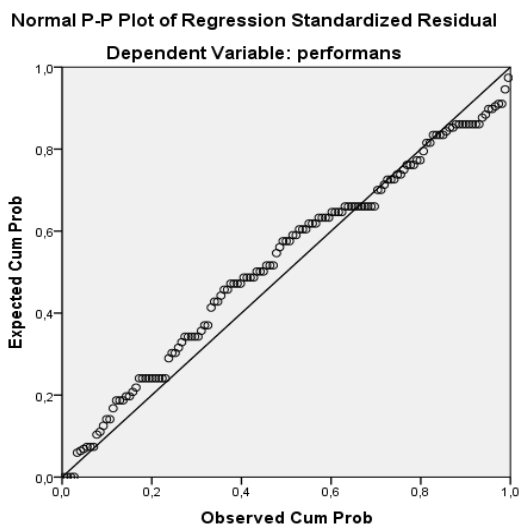
There is a positive and statistically significant relationship between the Innovation Scale scores and;

Management Leadership subscale scores ( $r=0,672$ ; moderately), Decision Making sub-dimension scores ( $r=0.682$ ; moderately), Process sub-dimension scores ( $r= 0,806$ ; highly), Continuous Improvement subscale scores ( $r = 0,721$ ; highly), Employee Participation subscale score ( $r = 0,749$ ; highly), Supplier Relation subscale scores ( $r = 0.663$ ; moderately), Patient Focus subscale scores ( $r = 0.733$ ; highly).

#### **4.4 Regression Analysis**

Analysis of regression is a method used to examine the relationship between a single independent variable and single dependent variable. This analysis was tested to investigate whether there is a significant relationship

between innovation and hospital performance. To check the assumptions about normality and linearity, the p-p graph of the data is made in Figure 4.1. The Durbin-Watson value obtained 1,790 between 2,50 to 1,50 indicates that there is no autocorrelation problem in the data.



**Figure 4.1.** Normal P-P Plot of Simple Regression Standardized Residual

Table 4.6. was showed the results of simple regression model.

**Table 4.6.**  
*Simple Regression Model Results*

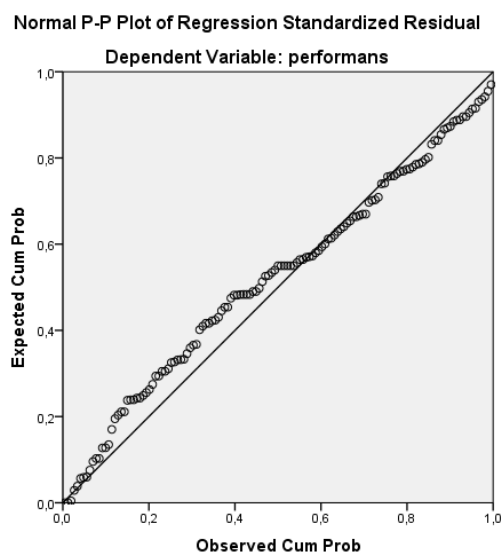
<b>Model Summary</b>						
<b>Model</b>	<b>R Square</b>	<b>R</b>	<b>Std. Error of the Estimate</b>	<b>Adjusted R Square</b>	<b>Durbin Watson</b>	
1	0,529	0,727	0,2239	0,525	1,790	
<b>ANOVA</b>						
<b>Model</b>		<b>df</b>	<b>Sum of Squares</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
	<b>Regression</b>	1	7,601	7,601	151,608	0,000
1	<b>Residual</b>	135	6,768	0,05		
	<b>Total</b>	136	14,369			
<b>Coefficients</b>						
<b>Model</b>		<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>	<b>t</b>	<b>Sig.</b>
		<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
1	<b>(Constant)</b>	0,781	0,315		2,477	0,014
	<b>Innovation</b>	0,825	0,067	0,727	12,313	0,000

Table 4.6 showed the results of simple regression model. R square value of analysis is 0,529 that means innovation approach in hospitals explain changes in hospital performance in proportion as %52. F statistic significance value is 0.000. There fore our test is entirely significant. In the table parameters estimates are given. Coefficient of innovation scale variable is 0,825 and t-test of this model is significant. Because the value of significance is less than 0.05. Coefficient of innovation scale means that increase by one unit in innovation scale will increase 0,825 unit to hospital performance.

Analysis of multiple regression is a method used to examine the relationship between a multiple independent variables with single dependent variable. This statistical analysis is tested the research whether there is any significant relation between TQM approaches and hospital performance. Model results



demonstrated in Table 4.7. In order to investigate the assumptions about normality and linearity, the normal p-p plot of the residues was made. Figure 4.2 shows this drawing. The Durbin Watson value is obtained 2,016 between 1,50 and 2,50 that there is no autocorrelation in the data. Also Table 3 shows that each variables tolerance value are hihger than 0,10 and variance inflation factor (VIF) is less than 10. These findings point out that the model had no serious multicollinearity problem.



**Figure 4.2 :** Normal p-p Plot of Multiple Regression Standardized Residual

**Table 4.7.***Multiple Regression Model Results*

<b>Model Summary</b>								
<b>Mod</b>	<b>R</b>	<b>R</b>	<b>Adjusted R</b>	<b>Std. Error</b>	<b>Durbin</b>			
1	,754 <sup>a</sup>	0,569	0,566	0,21415	2,016			
2	,810 <sup>b</sup>	0,657	0,652	0,19187				
3	,838 <sup>c</sup>	0,702	0,695	0,17953				
<b>ANOVA<sup>a</sup></b>								
<b>Model</b>		<b>Sum</b>	<b>df</b>	<b>Mean</b>	<b>F</b>	<b>Sig.</b>		
<b>1</b>	<b>Regressi</b>	8,177	1	8,177	178,3	0,000		
	<b>Residual</b>	6,191	135	0,046				
	<b>Total</b>	14,369	136					
<b>2</b>	<b>Regressi</b>	9,436	2	4,718	128,1	0,000		
	<b>Residual</b>	4,933	134	0,037				
	<b>Total</b>	14,369	136					
<b>3</b>	<b>Regressi</b>	10,082	3	3,361	104,2	0,000		
	<b>Residual</b>	4,287	133	0,032				
	<b>Total</b>	14,369	136					
<b>Coefficients<sup>a</sup></b>								
<b>Model</b>		<b>Unstandardiz</b>		<b>Standardiz</b>	<b>t</b>	<b>Sig.</b>	<b>Collinearity</b>	
		<b>B</b>	<b>Std.</b>	<b>Beta</b>			<b>Toleran</b>	<b>VIF</b>
<b>1</b>	<b>(Constan</b>	1,331	0,25		5,336	0,00	1,000	1,00
	<b>CI</b>	0,714	0,053	0,754	13,35	0,00		
<b>2</b>	<b>(Constan</b>	0,523	0,263		1,991	0,04		
	<b>CI</b>	0,456	0,065	0,481	6,983	0,00	0,540	1,85
	<b>PF</b>	0,431	0,074	0,403	5,846	0,00	0,540	1,85
<b>3</b>	<b>(Constan</b>	0,317	0,25		1,269	0,20		
	<b>CI</b>	0,338	0,066	0,357	5,085	0,00	0,455	2,19
	<b>PF</b>	0,328	0,073	0,306	4,505	0,00	0,485	2,06
	<b>EP</b>	0,266	0,059	0,293	4,477	0,00	0,523	1,91

The coefficient of detection  $R^2$  represents the percentage of the dependent variable explained by the independent variables included in the model. In multiple regression models  $R^2$  increases automatically as the number of variables increase. It is much more accurate that using the adjusted  $R^2$  value instead of  $R^2$ . Adjusted  $R^2$  is 0,702 which express %70 of hospital performance was explained by TQM approaches. The proposed model was significant at the 1% level (F-statistics significant value is 0,000). This means that there is a strong expression that the whole model is statistically significant and there is a positive relationship between TQM approaches and hospital performance. The standardized beta coefficients and t-values demonstrated Table 4.7 point out the positive relationship between three TQM approaches which are CI, PF and EP with the hospital performance.

We use stepwise selection method in regression model. In this method each variable added to model in order and than model is evaluated. If the added variable contributes to the model the variable remains in the model. However, the other variables in the model retested to assess whether they contribute to the model. If there is no significant contribution, it is removed from model. Thus, the model is explained with the help of the minimum number of variables.

#### 4.5 Results of Research Hypotheses

Summary information on the acceptance-rejection status of the research hypotheses is presented in Table 4.8.

**Table 4.8.**

*Acceptance-Rejection Status of Research Hypotheses*

<b>Hypotheses</b>	<b>Results</b>
H1: There is a significant relationship between innovation and TQM practices in hospitals.	Accept
H2: TQM practices carried out within the scope of management leadership in hospitals have an impact on hospital performance.	Reject
H3: TQM practices made within the scope of decision making approach in hospitals have an impact on hospital performance.	Reject
H4: TQM applications carried out within the scope of the process approach in hospitals have an impact on hospital performance.	Reject
H5: TQM practices carried out within the scope of continuous improvement in hospitals have an impact on hospital performance.	Accept
H6: TQM practices carried out within the scope of the participation of employees in hospitals have an impact on hospital performance.	Accept
H7: TQM practices carried out within the scope of relations with suppliers in hospitals have an impact on hospital performance.	Reject
H8: TQM practices carried out within the scope of patient-focus approach in hospitals have an impact on hospital performance.	Accept
H9: Practices carried out within the scope of innovation in hospitals have an impact on hospital performance.	Accept

## **CHAPTER 5**

### **DISCUSSION**

In essence, TQM involves changes in the ways and means necessary to achieve the organization's goals. While traditional management approaches have focused on maximizing organizational outputs and shareholder profitability, understanding of quality requires organizations to focus on customer needs and processes to meet customer needs. These fundamental differences turn into new ways of thinking that differ significantly from those who dominate traditional organizations. From this point of view, TQM is the primary example of organizational innovation, and innovation theories provide the appropriate theoretical lens to study TQM practice (Ahire and Ravichandran, 2001). According to Kim et al. (2012), it would not be appropriate to consider the individual impact of quality management practices, because the effect of one application is linked to another application (Camison and Denia, 2016).

In the research, positive and statistically significant relationships were found between TQM practices of private hospitals and their perspectives on innovation. Accordingly, within the scope of TQM practices, a moderate level of relationship was determined between the innovation attitudes of private hospitals and Management Leadership approaches, Decision Making approaches, and Supplier Relation attitudes. In addition, there was a high correlation between the innovation attitudes of private hospitals and the Process approaches, Continuous Improvement approaches, Employee Participation approaches and Patient Focus approaches of hospitals. In a study conducted by Prajogo and Sohal (2003) with 194 executives working in

companies manufacturing and non-manufacturing companies in Australia, there was a significant positive correlation between TQM and innovation performance. Thai Hoang, Igel and Laosirihongthong (2006) investigated the impact of TQM on innovation in manufacturing and service companies in Vietnam. Their findings show that TQM increases the number of new products or services provided or developed and affects innovation positively in terms of originality. Martínez-Costa and Martínez-Lorente (2008) collected and analyzed data from 451 manufacturing and service companies in Spain. In this analysis, it was concluded that TQM positively affects both product and process innovation. Researchers have suggested that companies should implement TQM to increase performance by focusing on enabling and facilitating the innovation culture. Santos-Vijande and Álvarez-González (2007) collected and analyzed data from 93 firms that produced and did not manufacture in Spain. The results of the study showed that TQM significantly affected innovation. In a survey conducted by Prajogo and Sohal (2003) with 194 executives working in companies manufacturing and non-manufacturing companies in Australia, there was a significant positive correlation between TQM and product quality and product innovation performance. On the other hand, the correlation of TQM with product quality was found to be greater. It has been reported by Prajogo and Sohal (2001) that there is a positive relationship between TQM and innovation performance. Maistry et al. (2017), taking information from the agricultural science and technology indicators guided by the International Food Policy Research Institute, in a study conducted by 60 state-run agricultural R&D organizations for Mauritius in 2013, positively affected the innovation and performance of TQM. they reached the conclusion. Arostegui et al. (2013), in their research on 230 leading companies in Spain, the innovation performance of the companies, consisting of leadership, strategic planning, customer orientation, information and analysis, human resources management, process management and supplier management, consisting of product and process innovation dimensions. They concluded that it positively influenced significantly.

It was concluded from the TQM applications that only Continuous Improvement, Employee Participation and Patient Focus approaches affect

the performance of private hospitals. This situation is in line with the literature. Sohal and Terziovski (2000) found a relationship between total quality management practices and company performance in a study conducted using a series of questionnaires and case studies to examine critical success factors for TQM by including 520 Australian companies. It was found that TQM applications such as statistical process control, quality circles, benchmarking and process restructuring improved the company performance statistically. When the customers and suppliers are included in the process of providing feedback and developing the company, it can be said that the company performances increase at the same rate (Sumarjan, 2011). Tosunoğlu, Cengiz and Akelma (2017) conducted a structural equation model analysis with the data they obtained from 140 manufacturing companies operating in Trabzon, and reached the conclusion that TQM positively affected the operating performance. Naktiyok and Küçük (2003) found that leadership, knowledge and analysis, strategic planning, human resource management, process quality management, quality activity results and customer satisfaction positively affect business performance in a study conducted on 274 SMEs. Ou et al. (2010) concluded that process management positively affected the operational performance of firms in a study on the Taiwan industry. Liu and Tsai (2009) reached the conclusion that the new product design has a significant and positive effect on the companies' R&D and financial performance in their study with the data they obtained from 460 companies in Taiwan. Nijoki Ndiritu (2015) conducted multiple regression analysis with the data obtained from 87 companies operating in Kenya within the scope of her doctoral thesis study conducted at Nairobi University, and as a result of the analysis, she found that leadership, education and quality knowledge positively affect the performance of the company. Samson and Terziovski (1999), in their study on 1200 manufacturing companies operating in Australia and New Zealand, concluded that total quality management practices positively affect the performance of the company. According to the intensity of market competition, Chong and Rundus (2004) conducted a survey on 89 of the manufacturing and operations managers in the manufacturing company in Australia and analyzed their data with multiple regression analysis in order to

investigate the impact of TQM on performance. Prajogo (2005), Australian Quality Organization Member randomly selected from 1000 executives, conducted a survey and received feedback from 194 firm managers. As a result of the analysis made by using the structural equality model technique with the data they obtained, it was concluded that the quality management practices that are in line with the dimensions of leadership, strategic planning, customer orientation, knowledge and analysis, people management, process management and product quality positively affect the quality performance. Veeri Arumugam et al. (2008), leadership, process management, information analysis, customer orientation, supplier relations, quality system improvement, continuous improvement, human, as a result of analyzing the data obtained from 122 manufacturing companies in Malaysia with ISO 9001 certification with the method of structural equality model. They obtained the conclusion that customer orientation and continuous improvement positively affect the quality performance of TQM applications consisting of dimensions of interest. Baird et al. (2011), in their study on 364 service and manufacturing companies in Australia, found that process management and supplier quality management positively affect the performance of the business positively. In their research on 100 companies operating in the logistics sector in Küçük et al. (2015), Trabzon and Gümüşhane, the operational performance of TQM; They concluded that the leadership of the management positively affected the performance of the company.

In this study, innovation processes of private hospitals have been found to have an impact on their organizational performance. As a result of the development in the competitive environment, innovation is rapidly progressing to be a critical factor in the performance and continuity of private hospitals. Likewise, Balachandra and Friar (1997) think that successfully introducing new products to the market is the lifeblood of many institutions. The importance of product innovation in terms of achieving good and long-term results of a company is widely known today and has found extensive coverage in the literature (Alegre et al., 2006). In this study, it was determined that the innovation attitudes of private hospitals had an effect on

the performance levels of the private hospital. Hoonsopon and Ruenrom (2012) found that product innovation affects the market and financial performance of companies in a study they conducted on 326 companies operating in the biotechnical, energy, food, pharmaceutical and agricultural sectors in Thailand.

This study was carried out on private hospitals operating in Ankara. Therefore, it will provide an understanding of how this research has an impact on TQM practices and performance for organizations operating in the health sector.



## CHAPTER 6

### CONCLUSION AND RECOMMENDATIONS

Today, the concept of quality has become an imperative for businesses to stand up to developing technology and globalization, and most importantly, to increase their profits. The situation is the same in the service sector. Early diagnosis and treatment for patients, the right to participate in employees, creating a vision appropriate for the time, ensuring continuous development are the leading factors for quality in the service sector. Especially in the last quarter of the twentieth century and especially among the new management techniques that stand out in the private sector, it has been quickly adopted by the managers of health institutions because the Total Quality Management philosophy has come to the fore as a technique that can meet the increasing competition and customer expectations. The purpose of this study; is to try to understand how hospital managers perceive hospital performance with the applications of TQM principles, which have important places in the service sector. In addition, TQM principles, which have an important impact on businesses serving in the health sector, and the innovative approach applied to meet the expectations in the service sector with the developing technology, is made to reveal how hospital managers perceive hospital performance.

Managers in the senior management staff of 31 private hospitals operating in Ankara participated in the research. In order to collect data in the research, a questionnaire prepared by the researcher was used. It has been determined that the participants have been working in private hospitals for many years. The majority of these participants have undergraduate and postgraduate education. It is seen that the answers given to the questions about quality management practices, innovation processes, hospital performance are obtained from the right source in terms of the positions of the respondents, working times and education in the sector.

TQM seems to be beneficial for businesses in the health sector in increasing both corporate performance and individual performance. It clearly and clearly reveals what the TQM management units in health institutions are expectations from health professionals and employees from their job descriptions and performance. Managers' providing more constructive and objective feedback to healthcare workers, trying to plan and direct their training and personal development more efficiently and effectively will optimize employee participation, increase employee satisfaction and organizational commitment, and will directly affect the performance of healthcare enterprises in the health sector.

TQM foresees the systematic follow-up of the individual qualifications, development potential and success of healthcare professionals. Because it is important to reach a prediction by evaluating the data about employee performance. Because ensuring employee satisfaction will result in an increase in employee and business performance and productivity with happy employees at an organizational level. Thus, it will be easier to reach the targeted success by increasing efficiency, increasing efficiency and increasing performance.

While the ability of private health institutions to follow up-to-date situations related to TQM and innovation understanding and to anticipate and apply these developments in advance increases the service they provide; They can provide healthcare workers with turnover-time computers and employee workers through speeding up processes and provide measurable performance of improved corporate performance. In order to get ahead of rival healthcare enterprises and even become a leader in the sector, to enable them to improve their services. Increasing the service quality comes out as technical quality and artistic quality in the health sector. Artistic quality is that their requirements are met in service delivery. On the other hand, technical quality emerges as to what extent the technological tools used and healthcare professionals overlap with modern medical science. It is inevitable for businesses in the health sector to follow TQM principles and all innovations that are dominant in the field in order to achieve their goals of gaining more earnings and becoming a leader in the sector.

In the research, positive and statistically significant relationships were found between TQM practices of private hospitals and their perspectives on innovation. Accordingly, within the scope of TQM practices, a moderate level of relationship was determined between the innovation attitudes of private hospitals and Management Leadership approaches, Decision Making approaches, and Supplier Relation attitudes. In order for TQM practices to affect innovation performance, utmost importance should be given to the elements of TQM such as management leadership, supplier quality management, product design, process management, customer relations and employee relations. In this study, innovation processes of private hospitals have been found to have an impact on their organizational performance. It was concluded from the TQM applications that only Continuous Improvement, Employee Participation and Patient Focus approaches affect the performance of private hospitals.

In order to be able to make process innovations in a private hospital, the top management must first have support. If top management did not believe in the necessity of innovation, it will not be possible to perform innovation performance in that healthcare institution. For this reason, not only management but also leadership is the sine qua non for TQM and innovation activities. For this purpose, administrators should be made conscious about quality and innovation by non-governmental organizations such as universities, chambers of industry and commerce. With various organizations, awareness-raising training, meetings and projects, projects and managers should be ensured to reach the necessary competence in quality and innovation. It should not be forgotten that long-term successes in private hospitals with quality and innovation will contribute to the health services of the country in the long term. Private hospitals, which have adopted patient relations as one of

the TQM elements, will outperform their rivals in terms of innovation. For this purpose, private hospitals should have regular and permanent relationships with the patients who apply to them. It should closely follow the changes in the expectations of patients coming to the hospital. Thus, they can achieve customer loyalty and, when satisfied with their preference, patients who are satisfied will express their satisfaction to their acquaintances, so they can increase the number of patients receiving service from them and become a leader in the sector. Hospital managers should establish the same relationship with healthcare professionals. Because when a system with good relations with health personnel is established, an effective communication network can be established between departments, and thus, interdisciplinary information can be exchanged.

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## APPENDIX

### App-1: Questionnaire

#### SURVEY FORM

#### Socio Demographic Form

1. Your Gender: ( ) Female ( ) Male
2. Your age:
3. Learning Status: ( ) License ( ) High License ( ) Ph.D.
4. Your Total Working Time:
5. Duration of Working as a Manager:
6. Has your physician present in one:
7. The Nurse Number of Your Hospital:
8. Your Hospital's MR Device Availability:
9. Availability of Ultrasonography Device in Your Hospital:
10. Availability of X-Ray Device in Your Hospital:
11. Bed Size of Your Hospital:

### Innovation Scale

	I strongly disagree	I do not agree	I am indecisive	I agree	Absolutely I agree
1. Our hospital often ranks first in promoting new products and services.					
2. Our services are often imitated by patients / clients.					
3. Compared to our competitors, our hospital / company has been offering more innovative products and services in the past 5 years.					
4. We are constantly improving our business processes.					
5. During the past 5 years, our hospital has developed many management approaches.					
6. When we cannot solve a problem with traditional methods, we develop new methods.					
7. Our hospital changes its service methods very quickly when it encounters our competitors.					
8. When we want to try new ways of doing something, we receive wide support from management.					
9. Our hospital tolerates when different things are done					

individually .					
10. We like to try new unconventional solutions and new ways to do new things.					
11. We encourage employees to act and think in a new and original way.					

### **Hospital Performance Scale**

	<b>I strongly disagree</b>	<b>I do not agree</b>	<b>I am indecisive</b>	<b>I agree</b>	<b>Absolutely I agree</b>
1. The service quality of our hospital is increasing.					
2. Our hospital's efficiency rates are increasing.					
3. The rate of erroneous procedures decreases in our hospital.					
4. Delivery time of purchased materials is getting shorter.					
5. Delivery time of treatment services to the patient is shortening.					
6. Patient complaints are decreasing in our hospital .					
7. The patient satisfaction level of our hospital is increasing.					
8. The rate of faulty services in clinics in our hospital is decreasing.					
9. The quality of clinics in our hospital meets or exceeds patient demands.					
10. The level of employee satisfaction in clinics is increasing in our hospital.					
11. Absentee rates of employees in our hospital are decreasing.					
12. The morale of the employees in our hospital is constantly rising.					

### **Total Quality Management Scale for Hospitals**

	I strongly disagree	I do not agree	I am indecisive	I agree	Absolutely agree
<b>Management leadership</b>					
1. Within the hospital, all department managers accept their responsibilities for quality.					
2. Hospital management provides individual leadership to improve quality service.					
3. All managers in the hospital work to encourage timely service.					
4. Senior management encourages employees to participate in the service process .					
5. Hospital management creates and spreads a vision focused on quality improvement .					
6. The hospital management individually participates in the quality improvement project.					
<b>Decision making approach</b>					
1. Quality information (cost of quality, defects, errors, scrap, etc.) is used as a tool to manage quality.					
2. Quality information is used to evaluate managers and auditors.					
3. Innovations are carefully reviewed before the service is created and offered to the customer.					
4. Coordination is ensured among the affected departments in service					

creation .					
5. Emphasis is placed on new service and quality in terms of cost and department objectives.					
6. Service specifications and procedures in our hospital are clear.					
7. Implementation and serviceability are taken into consideration in service processes .					
8. Quality is emphasized in all service units, patient admissions, emergency services and all clinics.					
<b>Process approach</b>					
1. The process in our hospital is widely under statistical quality control.					
2. We use comprehensive statistical techniques to reduce the mismatch in processes.					
3 . We use charts to determine whether our service process is under control.					
4. Statistical process we monitor our processes using.					
5. Process inspection, review or control is performed frequently.					
6. Distribution of utilities or service business is balanced.					
7. Job or process descriptions are given to employees clearly.					
<b>Continuous Improvement Approach</b>					
1. In our hospital, certain technical and					



professional skills training is given to employees.					
2. In our hospital, employees are trained on quality issues.					
3. Quality-related managers and supervisors are trained throughout the hospital.					
4. Total quality concept (hospital-wide quality responsibility philosophy) training is provided throughout the hospital.					
5. Training in basic statistical techniques (histograms and control charts) is provided throughout the hospital .					
6. Advanced statistical techniques (experimental design and regression analysis) training is provided throughout the hospital .					
<b>Employee participation</b>					
During the 1st problem solving session, we try to get the opinions and thoughts of all team members before making a decision.					
2. In our hospital, a team problem solving system is applied.					
3. In the past 3 years, many problems have been solved through small team sessions.					
4. Problem-solving teams helped improve the service process in this hospital .					
5. As many as possible, employees are encouraged to try to solve their own problems.					
<b>Relations with Suppliers</b>					
1. We help our suppliers increase their Just In Time production and delivery capabilities.					

2. We focus on quality rather than price in supplier selection.					
3. We take into account the commitment to quality in supplier selection.					
4. We consider the process capability in the selection of suppliers.					
5. We take into account the commitment to continuous improvement in supplier selection.					
<b>Patient focus</b>					
1. Patient needs have been spread and understood in our hospital.					
2. We know the current and future needs of our patients.					
3. We are often in close contact with our patients.					
4. Our patients often express their satisfaction.					
5. Our Responsible / Managers and Auditors encourage activities to improve patient satisfaction.					
6. Patient satisfaction and meeting their expectations is the most important thing we do.					
7. Senior managers constantly emphasize the importance of patient satisfaction.					

## App-2: Participant Information Form

## **Total Quality Management and The Effect of Innovation on Performance in Hospitals: Example of Ankara Province**

### **Participant Information Form**

Dear Participant

This scales the method of application of total quality and innovation in hospitals widespread understanding of the impact on hospital performance contribution that is not significant to determine is part of a research study we conducted. The data collected through these scales will be used to understand how hospitals' overall quality management and innovation level are related to their performance . Surveys to be conducted within the scope of the research are planned to take an average of 18 kills.

By completing the scale below, you agree to participate in this study. Please note that your participation in the research is voluntary and it will not be whether you agree to participate . Under no circumstances will your identity be disclosed to third parties. The data collected during this study will only be used for academic research purposes and can be presented in national / international academic meetings and / or publications. You can stop participating in this study at any time by contacting us. If you disable the study, your data will be deleted from our database and will not be included in other steps of the study. If you have any questions or concerns, you can contact us using the information below .

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## **Total Quality Management and The Effect of Innovation on Performance in Hospitals: Example of Ankara Province**

### **Informed Consent Form**

Dear Participant,

Through these scales, you are asked to participate in a research study that we have conducted in order to understand whether the effect of total quality method practices and innovation understanding that is widespread in hospitals on hospital performance is significant. The data to be collected in this study will be used to understand how the overall quality management and innovation level of hospitals relate to their performance. If you agree to participate, you will be asked to answer the questions in the questionnaire form consisting of Socio-Demographic Form, Innovation Scale, Total Quality Management Scale and Hospital Performance Scale. Your answers to the questionnaire will be recorded by the researchers in computer environment. All questionnaire forms will be kept by the research team for 2 years after the research is completed and will be deleted from all databases. All survey responses will be stored by anonymizing any identifying information. Please note that your participation in the research is voluntary. The data collected during this study will be used for academic research. for purposes only and may be presented in national / international academic meetings and / or publications. In any case, your identity will not be disclosed to third parties and pseudonyms will be used in all observation and interview data. You can stop participating in this study at any time by contacting us. If you disable the study, your data will be deleted from our database and will not be included in other steps of the study. If you have any questions or concerns, please contact us using the information below.

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By signing the section below, you agree to participate in this study .

Name Surname \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ Signature Tarih \_\_\_\_\_

## **CURRICULUM VITAE**

I was born on July 05, 1980 in Ankara as the second child of a teacher mother and a businessman father. I completed my primary and secondary education in Ankara. I have completed my undergraduate education in Anadolu University / Faculty of Economics / Public management in 2005. I have completed my Master Education in Hoca Ahmet Yesevi International Turkish-Kazakh University / Faculty of Social Sciences / Management and Organization (YL) in 2013. I have graduated from Atatürk University / distance education Faculty / Child Development (2019) and Anadolu University / distance education Faculty / Justice (2020).

I got married with Gökhan Subaşı in Ankara in 2004 and we have four children including our two daughters and two sons. I am the founder and responsible manager of Private Ganimet Öğretmen Higher Education Dormitory for Girls affiliated with the Ministry of Youth and Sports since 2007. I actively work as a Mediator within the Ministry of Justice of the Republic of Turkey at the same time since 2018.

## PLAGIARISM REPORT

### TOTAL QUALITY MANAGEMENT IN HOSPITALS AND THE EFFECT OF INNOVATION ON PERFORMANCE

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29.08. 2018

Sayın Prof. Dr. Latif Öztürk

Bilimsel Araştırmalar Etik Kurulu'na yapmış olduğunuz YDÜ/SB/2018/196 proje numaralı ve "Hastanelerde Toplam Kalite Yönetimi ve Yenilikçiliğin Performansa Etkisi: Ankara İli Örneği" başlıklı proje önerisi kurulumuzca değerlendirilmiş olup, etik olarak **uygun** bulunmuştur.

  
Prof. Dr. Reşit Onur

Yakın Doğu Üniversitesi

Bilimsel Araştırmalar Etik Kurulu Başkanı