

**Deanship of Graduate Studies  
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**Quality of Services Provided in Dental Clinics at  
University of Palestine: Patients Perception and  
Expectation**

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**Quality of Services Provided in Dental Clinics at  
University of Palestine: Patients Perception  
and Expectation**

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Patients Perception and Expectation**

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**Jerusalem – Palestine**

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## **Dedication**

This thesis is dedicated to: The sake of Allah, my Creator and my Master.

The teacher of mankind, the prophet of mercy and peace. Our role model, intercessor, and our beloved, our master Muhammad, upon him be the best prayer and peace.

My homeland Palestine.

My great parents, who never stop giving of themselves in countless ways and lead me through the valley of darkness with light of hope and support.

My dear wife, who bore my preoccupations and the difficult stages we went through together.

My beloved brothers and sisters, to all my family, the symbol of love and giving.

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To all academic and administrative staff of the School of Public Health, Al-Quds University, especially the creator, Dr. Bassam

The generous Dr. Yahya

And our sister who spares no effort to deliver information, Dr. Khitam.

My close and loyal friends and Our colleagues from the West Bank, whom we had the honor to know during our academic career.

## **Declaration**

I certify that this thesis submitted for the degree of Master, is the result of my own research, except where otherwise acknowledged, and this study (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Signed : *Hammouda Salah Mohammed Shublaq*

**Hammouda Salah Mohammed Shublaq**

Date: 7-5-2022

## **Acknowledgement**

In the Name of Allah, the Most Merciful, the Most Compassionate all praise be to Allah, the Lord of the worlds; and prayers and peace be upon Mohamed His servant and messenger. First and last, I must acknowledge my limitless thanks to Allah, the Ever-Magnificent; the Ever-Thankful, for His help and bless. I am totally sure that this work would have never become truth, without his guidance.

With profound gratitude I would like to thank my thesis supervisor Prof. Dr. Yousef Aljeesh, for his intellectual foresight, vast expertise, and unwavering support throughout the project's growth. His advice, criticism, and comprehensive feedback have been extremely beneficial to me throughout the process of writing and delivering the final edition of this thesis. Despite his incredibly hectic schedule, he took the time to read and revise my work, and I am grateful for that. His intriguing ideas have improved my capacity to think critically, pay attention to detail, and increase the quality of my work, and it was through his insight that I discovered the value of theory-driven research.

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## **Abstract**

*Dental services delivered in many countries worldwide where sophisticated clients expect quality care. Several recent studies have placed a greater emphasis on patient satisfaction than service quality, while others have focused only on service provider viewpoint. The researcher aimed in this study to assess the quality of services provided in dental clinics at University of Palestine according to patients' perspective by studying the possible gap existed between their perception and expectation. Triangulated, analytical cross-sectional study design was used, quantitative data were collected through self-administered structure questionnaire (Servqual) filled with a sample of 353 adult patients attended dental clinics at University of Palestine who were selected by convenience sampling technique (153 males and 200 females). The questionnaire was sent to a group of experts to examine the face and content validity. The questionnaire's validity and reliability were tested in a pilot study with 30 participants, and the Cronbach alpha coefficient was 0.88. Qualitative data were collected through focus group interviews with eighteen participants divided into three groups. The findings revealed that the service quality delivered to patients in dental clinics at University of Palestine was high as their perception exceeded their expectation, with highest score in expectation was in assurance ( $M=3.83$ ) and highest score in perception was equal in assurance and empathy with mean score ( $M=4.20$ ) while lowest score in expectation and perception was in responsiveness ( $M=3.70$ ). According to the findings of this study, there were statistically significant differences in patient expectations about the quality of service in the UP dental clinic based on age of patients and marital status. These findings revealed that younger, single patients had higher expectations for the quality of dental services than older age married, divorced, or widowed patients with ( $F$  test 6.525,  $P$  0.001;  $F$  test 5.192,  $P$  0.006) respectively moreover patients aged 51 years and more expressed significant lower perception about responsiveness compared to younger age patients with ( $F$  test 3.892,  $P$  0.004) and patients from the north governorate expressed significant lower perception about tangibles compared to patients from the middle governorate ( $P=0.002$ ) and patients from Khanyounis ( $P=0.030$ ). The qualitative findings consistent with the quantitative findings, particularly with regards to the level of service quality provided in dental clinics at the University of Palestine, where the majority of participants stated that the level of service quality exceeded their expectations. There is a need to establish a quality control unit that, among other things, should adopt a quality assurance policy and conduct regular patient satisfaction measurements in order to improve the quality of services provided on a regular basis, improving patient satisfaction and service quality by decreasing patient wait times. There is also a need to increase the patients' trust in employees and physicians, finally, it is important that care providers continue their education in patient-centered care.*

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## **List of abbreviations**

<b>ANOVA</b>	Analysis of Variance
<b>ED</b>	Endodontics Dentistry
<b>FG</b>	Focus Group
<b>GS</b>	Gaza Strip
<b>OD</b>	Operative Dentistry
<b>OS</b>	Oral Surgery
<b>PCBS</b>	Palestinian Central Bureau of Statistics
<b>PD</b>	Periodontics Dentistry
<b>PDD</b>	Pedodontics Dentistry
<b>QS</b>	Quality of Services
<b>RFP</b>	Removable and Fixed Prosthodontics
<b>SPSS</b>	Statistical Package for Social Science
<b>UAE</b>	United Arab Emirates
<b>UNRWA</b>	United Nations Relief and Works Agency for Palestinian Refugees
<b>UP</b>	University of Palestine
<b>UPDCs</b>	University of Palestine Dental Clinics
<b>WHO</b>	World Health Organization

# **Chapter 1**

## **Introduction**

### **1.1 Background**

Dental healthcare is deemed to be costly all over the world, and it is more common in cities than in rural areas. Dental patients, according to (Baldwin, 2018), are sophisticated health-care users who are demanding more clarity from their providers. The consumer judgement of a product or service is one of the aspects that defines its quality, so customer perspective must be regularly assessed (Adebisi & Lawal, 2017). Because of the significance of quality, each entity must quantify the quality level of its services from their customer perspective that shall enable the entity to get a spirited benefit, develop its services and expand, however measuring such level is not something effortless to do (Tashkandi et al., 2017).

Despite the importance of dental care quality to patients, studies of dental care quality are infrequent and require universal criteria to be used (Khan, 2019). Researchers agreed that quality and patient satisfaction research is useful as a metric for assisting health care providers in quickly recognizing patients' needs, identifying which aspects of service demand need to be improved in order to improve patient satisfaction and improving the quality of treatment or services. The importance of quality services to clients helps maintain customer satisfaction and loyalty and reduces the risk and cost of replacing faulty services. Medical institutions can build a reputation for quality by gaining accreditation with a recognized quality standard (Anang et al., 2020). Several state dental programs, researchers, and the Dental Quality Alliance (DQA) have worked together in recent years to produce baseline criteria for dentistry in order to improve health outcomes, lower costs, and improve patient experiences. For diverse population groupings, some of these measurements have been studied and validated. However, quality monitoring in dentistry has significant undesired implications and obstacles. Unintended consequences and challenges associated with implementing dental quality measures include a de-emphasis on patient-centeredness with process-based quality measures, incentivization of unethical behavior due to fee-for-service reimbursement systems, the risk of compromising patient and provider autonomy with plan-level measures and disproportionate benefits of dental quality measurement going to payers (Byrne et al., 2019).

Universities and dental schools are primarily focused with therapy characteristics, pain management, and risk reduction for patients, while ignoring other elements that influence patient satisfaction. All facets of service excellence are linked to these characteristics (American Dental Association, 2019).

Researchers have established several scales and models to determine the service quality level. One of these scales is called Servqual scale which consists of thirty- two items. There is another scale called "Servperf "scale which consists of twenty-two items. The present study implemented the Servqual scale to determine the quality level of services provided in dental clinics at University of Palestine. It should be noted that assess such quality is highly significant because it shall participate in raising the quality level of such services.

A Study executed in Saudi Arabia showed that 25% of patients entered the study were frustrated with the efficacy of treatment (Al-Hussyeen, 2018) , while in another study conducted in Canada , 93% of patients at the University of Toronto's Faculty of Dentistry were satisfied with the quality of services they received (Khan, 2019).

## **1.2 Research Problem**

Providing high-quality care is a daunting task for all health institutions around the world as quality is a multifaceted notion that can be defined using a variety of metrics. Investigations into the quality of health treatment and patient satisfaction have gotten a lot of attention in recent years all over the world (Byrne et al., 2019). However, such research is uncommon in Arab nations, particularly in dental practice (Al-Doghaither, 2019). Academic societies should achieve a balance between prioritizing student and patient demands while also recognizing the value of patients' satisfaction with quality services to students' education.

In Palestine while dental colleges strive to provide high-quality care to patients and invest significant resources in doing so, limited data on the quality of these services and factors that influence patient satisfaction is available. Therefore, there is a gap between the services provided and the level of patient satisfaction with them as a result of the lack of studies that determine the quality of these services, it should be noted that such studies are beneficial to the patient, the service provider, and the decision maker. In the Gaza Strip Since the establishment of the dental department at the University of Palestine in 2012, around 250 graduates have completed their studies there. Students provide dental care to a diverse range of community patients throughout the course of nine years. These dental services are free and cover different areas of dental treatment as endodontics, periodontics, prosthodontics pedodontics, surgical and operative treatments. Quality of these services delivered, however, has not been studied before. So, this study will be the first that appraise the service quality provided in the UPDCs, especially from patients' perspective, which will have large impact in term of progression and decision-making aspects.

### **1.3 General and specific objectives**

#### **1.3.1 General objective:**

The general objective of this research is to assess quality of services provided in dental clinics at University of Palestine from patient perspective (expectation and perception).

#### **1.3.2 Specific objectives:**

1. To assess quality of services provided in dental clinics at University of Palestine from patients' perspective.
2. To identify possible gap between patients' expectations and perceptions of services provided in dental clinics at University of Palestine.
3. To identify possible association between patients' sociodemographic factors (gender, age, marital status, etc.) and service quality dimensions.
4. To suggest recommendations for progressing quality of services in dental clinics at University of Palestine.

### **1.4 Justification of the study**

Despite its relevance in patient satisfaction, there are few studies on dental care quality. In addition, the majority of the existed studies didn't consider the patient perspective. More care must be taken regarding this issue as dental patient needs more clarity and attention (Baldwin, 2018). Despite significant advancements in the field of oral health, many people around the world, particularly those from lower socioeconomic backgrounds in both developed and developing countries, suffer from dental problems. Note that pain is frequently linked to the use of health-care facilities by both children and adults, and this is more common among those of low economic class. Patient (customer) survey feedback can be extremely deceptive from both a policy and administrative level if there is lacking of information about both expected and perceived level of service (Taiwo Adebayo et al., 2017).

The significance of this research lies in the value of the quality of service provided, as it may lead to the expansion of other studies on the study topic. This study is the first one to be conducted in Gaza Strip that contributes to provide information on the quality of dental services, especially in dental teaching institutions. Results of the study could be used by

policy makers and decision makers to design and implement intervention or programmes to increase quality of services in dental practice. The study will introduce benefits also to dental healthcare providers through knowing the quality of their services regularly, so increasing the level of quality of services provided. It also certainly helps the researcher in assessing the quality of services in his workplace by standing at the actual level of quality of services delivered and what the patient expects, identify parts of services need to be improved and take steps to achieve that and focus more in parts that increase patient satisfaction .

## **1.5 Context of the study**

### **1.5.1 Geographical and demographic context:**

The GS is a small region in the southwest of Palestine with a surface area of 365 km<sup>2</sup> from north to south, five governorates constitute GS, North Gaza, Gaza, Deir El-Balah, Khan Younis, and Rafah. Gaza is the second most populous governorate in the Occupied Palestinian Territories (OPT), after Hebron. Dr. Ola Awad, President of the Palestinian Central Bureau of Statistics (PCBS) presents a brief on the status of Palestinian people at the end of 2021. The estimated number of Palestinians at the end of 2021 was about 14 million; 5.3 million in the State of Palestine (3.2 million in the West Bank and 2.1 million in Gaza Strip), while about 1.7 million Palestinians in the 1948 territories, and nearly 7 million in the Diaspora (6.3 million live in Arab countries and 750 thousand live in foreign countries).

The Israelis formally transferred the GS to the Palestinian Authority in accordance with the Oslo agreement with limited independence that results in improvement of the social and economic status of the Gazan people till the occurrence of Intifada in 2000 where the political and socioeconomic situation started to break down and reached to the maximum disaster since the internal division. To control border crossings, the movement of goods and people, the GS has been placed under rigorous siege.

Occupation army launched four wars on the GS, killing and injuring tens of thousands of people and destroying tens of thousands of homes, manufacturing facilities, and agricultural resources.

### **1.5.2 Socio-economic context:**

The Palestinian economy remained stagnant, the powerful border fence that stops goods and aid from entering Gaza is causing hardship for the people; both importing and exporting are restricted. As a result of the continued political unrest and the GS siege, the Palestinian economy has deteriorated significantly. More unemployment, increased deprivation rates, and a significant decrease of the private sector, which formerly relied solely on export markets, have come from Israel's border restrictions, which were tightened after Hamas took control of Gaza.

The unemployment rate among labor force participants in Palestine reached 26% in 2021, and the total labor underutilization reached 34%. There is still a large disparity in the unemployment rate between the West Bank and Gaza Strip, as this rate reached 47% in Gaza Strip compared to 16% in the West Bank. On the gender level, the unemployment rate for females reached 43% compared to 22% for males in Palestine (PCBS, 2021). The services sector and other branches (including education and health) were the biggest employer in the local market, where the percentage of employment was more than one third of the employed in the West Bank compared with more than half in Gaza Strip.

The average weekly hours worked by wage employees in the West Bank was 43.5 hour compared with 36.5 hour in Gaza Strip. And the average number of days worked per month was 23.0 day in the West Bank and 22.3 day in Gaza Strip (PCBS, 2021).

The Palestinian economy is severely impacted by Palestine's protracted political and security predicament. Under unchanged policies, the economic outlook is dire with debt on an unsustainable path and per capita GDP projected to decline. This is against the backdrop of already persistently high unemployment and poverty, particularly in Gaza according to the International Monetary Fund (IMF) after assess recent economic developments in the West Bank and Gaza done from February 17 to March 3, 2022. The Palestinian economy has been rocked by a series of shocks since the Oslo Accords, including the World Bank's split and protocol of Paris the following year, the First and Second Intifadas, and the Gaza siege and four wars that followed. Against the background of repeated political and security shocks and despite the Ministry of Finance and Planning's good revenue performance, the combination of the COVID-19 pandemic, declining donor support, and spending priorities have resulted in high deficits. With limited financing options, the

authorities have accumulated large domestic arrears. Public debt (including arrears to suppliers and the Palestinian Pension Agency) increased from 34.5 percent of GDP in 2019 to 49.3 percent of GDP in 2021 (or 20.9 percent excluding arrears). The fiscal challenges are largely structural in nature.

Residents of impoverished neighborhoods or communities are at increased risk for mental illness, chronic disease, higher mortality, and lower life expectancy. Some population groups living in poverty may have more adverse health outcomes than others. For example, the risk for chronic conditions such as heart disease, diabetes, and obesity are higher among those with the lowest income and education levels.

### **1.5.3 health care system:**

The four main health-care providers in the WB and GS are the Ministry of Health, the Palestinian Military Medical Services, Non-governmental organizations and United Nations Relief and Works Agency for Palestine (UNRWA), each with its own network of primary health-care institutions and hospitals. For example, the MoH provides primary, secondary and tertiary health services and purchase the unavailable tertiary health services from domestic and abroad providers. Islamic charitable committees, Christian charities, and non-profit organizations focus on primary care, maternal health, rehabilitation, and specialized care in referral hospitals to supplement public sector services. The Palestinian MoH pays great attention to preserve the continuity of the Palestinian health system and providing comprehensive health services with high quality to all the citizens (MoH, 2020).

According to the famous Alma Ata declaration, primary health care is considered an essential health care component where empowering individuals and communities and ensuring participation in planning and implementing health intervention is a core character of PHC services. PHC is founded on the principles of social justice, equity, solidarity, and participation. It is founded on the notion that the enjoyment of the best achievable level of health is one of the fundamental rights of all human beings (WHO, 2021).

There are 159 primary health centers in the GS, 52 centers belong to the MoH (32%), 22 centers belong to UNRWA (14%) and 80 centers belong to the NGOs, 5 centers of them belong to the military medical services (3%). The average ratio of persons per center was 12788 in GS. The Number of PHC centers per 100.000 persons was 2.6 in 2020 (MoH, 2020).

#### **1.5.4 Dental colleges in the Gaza Strip:**

In addition to the dental care services that are provided inside the four main health-care providers institutions in the Gaza Strip, there is dental care provided inside the dental clinics in the dental colleges as well.

There are two dental colleges in G.S for teaching dental students and cover the therapeutic services in most of dental specialties for a wide segment of the population from different social classes. One of these colleges is located at Al-Azhar University which was established in 2007, the other at University of Palestine. The University of Palestine is one of the Palestinian universities located in the Gaza Strip, which was established in 2005, with other universities in the Gaza Strip ,it participate in helping students complete their studies, especially in light of the siege imposed on the Gaza Strip and the difficulty of movement outside the Strip. Within the University of Palestine, there are many faculties that include accredited educational programs. Among these colleges is the College of Medicine and Health Sciences, which includes the Department of Dentistry, Pharmacy, Health and Nutrition. Dentistry department has two parts, the first part includes laboratories for preclinical stage, the second part includes dental clinics for clinical stage. Dental clinics at Up are clinics for student education that provide dental care to a significant number of patients from various parts of Gaza. These clinics offer treatment in several aspects of dentistry (Operative dentistry, Removable and fixed prosthodontics, Periodontics, Oral Surgery, Pedodontics and Endodontic treatment) demonstrating UP's commitment to its community, note that the treatment service is provided free of charge. In average there are one hundred and fifty students working in the faculty clinics in various disciplines, as well as ten nurses. There are also fifty-two dental units in the clinics, receiving between fifty and seventy patients every day in various departments.

## **1.6 Operational definitions**

### **Quality**

To define quality, the researcher applied Parasuraman's quality dimensions, which include Tangibles, Reliability, Responsiveness, Assurance and Empathy.

### **Health care quality perception**

Patients' judgments and assessments on the provided service quality (Righolt et al., 2019).

### **Health care quality expectation**

Patients' hopes for the level of service they want, as well as their belief in what can and should be done (Akbar et al., 2019).

## Chapter 2

### Conceptual framework and literature review

#### 2.1 Conceptual framework

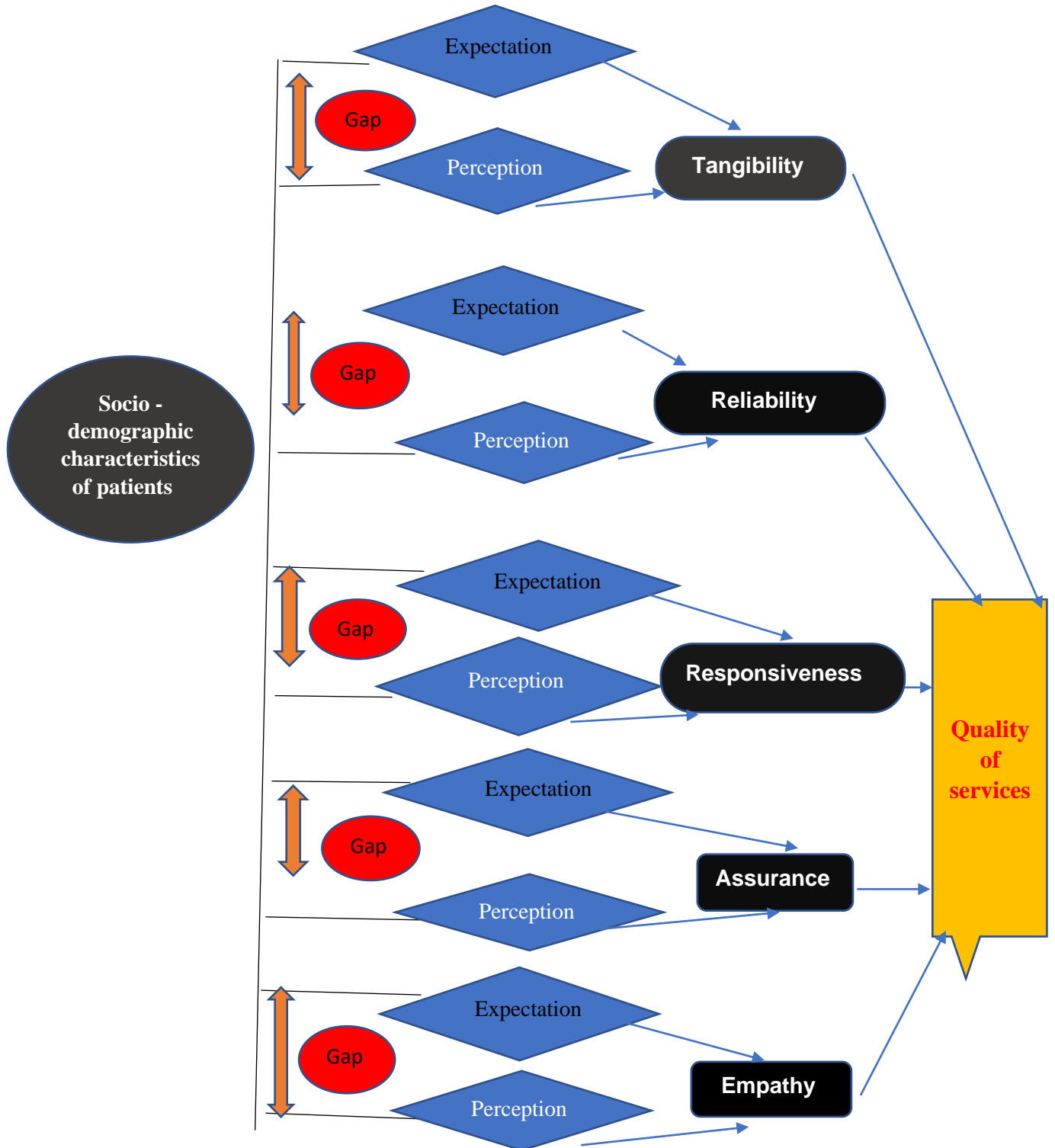


Figure (2.1): conceptual frame work- self- developed model

The self-developed model displayed the key domains used to assess the service quality at UP dental clinics. The figure depicted two sorts of variables: dependent and independent variables. Along with the five dimensions of quality of services (Tangibility, reliability, responsiveness, empathy) which considered the dependent variable, independent variables include sociodemographic data of study participants (age, gender, place of residence, and marital status).

In addition, the gap between patient's perception and expectation regarding treatment impacts their level of satisfaction (when expectation less than perception patient will be satisfied). Patients' healthcare requirements vary depending on their gender, age, and other factors. (Braunsberger et al., 2019) reported that elderly, male patients, those with a lower educational level, and those who witnessed improved system efficiency seem to be more impressed with their healthcare system and service quality than others. Moreover, interactions between different patient groups' health-care seeking habits may affect distinct quality decisions, affecting satisfaction favorably or undesirably. Other researchers, conversely, claimed that while access and worker competence had an impact on satisfaction, criteria such as gender, age, marital status, education, race, and the number of visits had no impact on it and hence on service quality (Al-Azzam et al., 2017).

### **2.1.1 Reliability:**

Indicates the precision of dentist's service provided in accordance to what is needed, and the level of reliance on the performance or achievement on the patient's side (Parasuraman et al., 1985). Errors and process failures that can affect patients are less likely in a highly reliable system. Routine anesthesia, for example, is seen to be extremely safe. It's linked to a small number of errors and process failures, and those errors and failures rarely result in deaths.

In population health programs, too, reliability is important. A reliable developmental screening system, for example, would result in a consistent method for giving developmental screens to early children and then sending them to interventions as needed. Measurement is required to provide reliable systems, whether at the hospital, state, or community level. Measuring reliability allows us to comprehend and learn from system variability, as well as determine whether our improvements result in increased reliability (Akbar & Pasiga, 2018).

### **2.1.2 Responsiveness:**

The dentists' readiness and ability to provide the service in a timely manner with high efficiency adding to it the level of help offered to the patient (Parasuraman et al., 1985) . The responsiveness of national health systems is a key goal. Health systems that are responsive anticipate and adapt to current and future health requirements, resulting in better health outcomes. Responsiveness is the least studied of all the health-care system goals, which may reflect a lack of comprehensive frameworks that go beyond the normative criteria of responsive services. Understanding the responsiveness of health systems is especially crucial for many low- and middle-income nations that are experiencing rapid economic and social development. Health systems that are responsive anticipate and adapt to changing demands, seize chances to expand access to effective therapies and improve service quality, resulting in better health outcomes (Al-Hussyeen, 2018).

### **2.1.3 Assurance:**

Indicates the possibility, ability, and the information of the dentist which directs trust and safety in the patient (Parasuraman et al., 1985) . Patients want health care professionals to be specialists in the services they provide. When patients have a lot of choices but aren't sure who to trust, assurance is crucial. Customers are constantly exposed to online advertisements for health care providers that may not be trustworthy in this case, so you need to know how to stand out and gain consumer trust (Akbar & Pasiga, 2018).

### **2.1.4 Empathy:**

It goes back to the care and concentration of the dentist which is individually based on meeting the patient's needs and the dealing with the service provision (Parasuraman et al., 1985). Patients want to feel like they're part of something more than a transaction; they want to have a bond with your clinics. You can still fall short of their expectations even if you offer the best treatment or service.

Empathy for clients requires that your firm demonstrate its concern. You may exceed expectations by training personnel on how to deliver outstanding and empathic service, with frequent smiles and interesting discussion (Akbar & Pasiga, 2018).

### **2.1.5 Tangibility:**

Which includes materialistic accessories supporting the provision of services (equipment, appliances, and individuals (Parasuraman et al., 1985). Customers expect clean and professional facilities in health institutions, well-groomed and tidy workers, and well-written and designed materials. Attention to detail can imply that your organization values consumer comfort. While appearance is not the most important aspect of service, it does impact how clients perceive your company, particularly if your brand promises a premium or luxury experience (Endeshaw, 2020).

## **2.2 Literature Review**

### **2.2.1 Service quality and quality dimensions:**

Service quality is defined as "the degree and direction of divergence between consumer perceptions and expectations." (Adebisi & Lawal, 2017). Cronin and Taylor stressed the importance of service quality in terms of 'performance-only measurements,' which are only based on consumers' views of a service provider's performance. Many investigations conducted in different years and in diverse circumstances disputed and updated these criteria. Various models were developed and theorized in studies to discuss the concept.

Gronroos was one of the earliest and most simple models defining the above-mentioned concept. Functional quality, technical quality, and image are the three attributes of service quality identified by the authors (Upadhyai, 2019). Silvestro examined, contrasted, and integrated literature on Total Quality Management (TQM) viewpoints in manufacturing and found that manufacturing TQM has a significant impact on service quality. The impact of such a participatory and ongoing organizational process on organizational productivity and growth is possible. (Parasuraman et al. 1985) proposed SERVQUAL as a simple methodology for assessing service quality inside an organization, focusing on generic models for service quality. This model was a continuation of a prior model in which ten dimensions (Tangibility, Reliability, Assurance, Responsiveness, Empathy, Communication, Competence, Credibility, Courtesy, and Security) had been reduced to five (Tangibility, Reliability, Assurance, Responsiveness and Empathy). In healthcare context Donabedian defined service quality in hospitals as 'the ability to achieve the required objectives through legitimate means,' where the desired objectives meant 'the achievable level of health.' While Fuentes defines medical service quality as "a multifaceted concept reflecting a judgment as to whether the service performed for a patient was the most appropriate to produce the best result that could reasonably be expected by the patient, and whether those services were delivered with due attention to the doctor/patient relationship.". Hospital service quality, according to (Righolt et al., 2019) is "the disparity between patients' or patients' attendants' views of services offered by a particular hospital and their expectations about hospitals that offer such services." However, the Gap model and SERVQUAL proposed by Parasuraman have received a lot of support from researchers.

Service quality defined by Parasuraman and Berry as providing service in accordance with customer anticipation, for that this service must be frequently assessed to enhance quality, identify issues quickly and as a result enhance client satisfaction. The principle of "service quality" is not an autonomous concept, meaning that its formation will require a number of factors (Upadhyai et al., 2019) . These factors represent the dimensions of quality.

## **2.2.2 Quality of services in healthcare**

Healthcare is an intangible product that cannot be touched, felt, watched, counted, or measured in the same way that produced commodities can. Quantitative measures are possible when physical things are produced because they can be sampled and verified for quality throughout the manufacturing process and thereafter. However, due of its intangibility, healthcare service quality is determined by the service process, as well as interactions between customers and service providers. Some aspects of healthcare service quality, such as consistency, completeness, and effectiveness, are difficult to assess beyond the subjective opinion of the client (Thi & Nhung, 2019).

It's challenging to replicate consistent healthcare services that vary by producer, consumer, location, and time. Different experts (e.g., physicians, nurses, etc.) supply the service to patients with various needs, resulting in "heterogeneity." In service operations, quality standards are more difficult to create. Because characteristics such as education/training, experience, individual abilities, and personalities differ, healthcare professionals give services differently (American Dental Association, 2019).

Healthcare services are produced and used in real time, and they cannot be saved for later use. Because the user cannot determine "quality" prior to purchase and consumption, quality control is impossible. It is less likely to get a final quality check than produced goods. As a result, the quality of healthcare cannot be guaranteed. Donabedian (1980) defined healthcare quality as “the application of medical science and technology in a manner that maximizes its benefit to health without correspondingly increasing the risk”. He distinguishes three components:

- Technical quality: the effectiveness of care in producing achievable health gain.
- Interpersonal quality: accommodating patient needs and preferences.
- Amenities: such as physical surroundings and organization attributes.

Quality care is defined by Maatook as "providing treatment that surpasses patient expectations and provides the best clinical outcomes achievable with the resources available." He devised a three-dimensional framework for increasing healthcare quality: professional, client, and management quality. Professional quality is determined by whether or not professionally assessed customer needs were met utilizing appropriate methodologies and procedures. Client quality refers to whether or not direct beneficiaries believe the services provide them with what they want. Management quality ensures that services are provided in a cost-effective manner.

Effective healthcare quality, according to (Sami Alhabib, 2021) implies "providing patients with suitable services in a technically competent manner, with good communication, shared decision making, and cultural sensitivity." Professional standards must be met by these healthcare services. On the other hand, they believe that poor quality means providing too much care (e.g., unnecessary tests and medications with risks and side effects), too little care (e.g., failing to provide an indicated diagnostic test or a lifesaving surgical procedure), or the wrong care (e.g., providing the wrong care) (e.g. prescribing medicines that should not be given together).

Quality healthcare, according to (Sower et al., 2018), is the moral and ethical thing to do. They say that "doing the right things properly and continuously improving, attaining the greatest possible clinical outcome, pleasing all customers, retaining skilled staff, and maintaining strong financial performance" are all examples of healthcare quality.

In their concept, Joss and Kogan see quality in three dimensions: technical, systemic, and generic. The professional work-content within a specific sector is what technical quality is concerned with. Systemic quality refers to system and process quality that transcends departmental boundaries. Generic quality refers to qualities of quality that require interpersonal interactions. Gronroos distinguished between technical and functional service quality. Technical quality refers to the delivery of core services or their outcomes (what is given and received), whereas functional quality refers to the healthcare service delivery process or how the client receives the service (i.e. how the service is offered and received). When it comes to rating the quality of healthcare services, patients frequently focus on functional quality (facilities, cleanliness, food, and provider dispositions) rather than technical quality. There are two types of quality definitions for health services in the literature:

1) Healthcare services that fulfill established norms and standards in terms of their qualities and features. Quality is defined as "conformance to specifications, requirements, or standards" and "meeting the expectations of the supplier" in this approach. The emphasis is on the internal (i.e. supply-side quality). In this area, quality is defined by terms like correctness, dependability, and efficacy.

2) Healthcare services that meet or surpass consumer wants and expectations in terms of qualities and features. "Quality" is defined as "meeting customer expectations and needs" in this approach. As a result, the focus is on the outside world (i.e. demand-side quality). Quality in this area include terms like effectiveness, empathy, safety, and cost. Patients' perceptions of healthcare service quality influence their choice of a healthcare facility and whether or not they would suggest it to family or friends. To sustain high levels of patient satisfaction, healthcare administrators and practitioners should conduct continual quality improvement programs. Healthcare services, on the other hand, cannot be enhanced unless they are well defined and measured. Clients, providers, regulators, payers, and suppliers all have an impact on how healthcare is delivered. Any endeavor to define, measure, and enhance healthcare quality must take into account the viewpoints and priorities of healthcare stakeholders. While there has been some empirical study in this field ,there has been little research into the quality of Arab countries healthcare services (Al-Doghaither, 2019). Most studies were limited to one or at the most two healthcare stakeholder perspectives.

As a result of patients fluctuated thoughts, appraisal and desires, quality in health care involves a many-sided approach which considers requirements of numerous players in health care. It's difficult to reproduce reliable healthcare services that differ by manufacturer, consumer, location, and time. (Mosadeghrad, 2018).

The emergence of these attitudes is attributed to a mismatch between consumer expectations and perceptions of service efficiency. Thus, fulfilling expectation of patients by taking the time to understand their needs and delivering clear instructions is associated with improved quality (Aldosari, et al., 2017). Consequently, offering high-quality healthcare services has the goal of increasing the likelihood of obtaining the patient's desired health outcomes. As a result, patient-based medical care evaluations are becoming increasingly important as the need to measure quality improves.

### **2.2.3 Impact of quality care measures on patient care**

All parties acknowledge that not all quality measures are created equal, and that quality measurements will continue to improve over time. However, academics have raised concerns about overly simplistic quality measurements and the undesirable outcomes that might result from their overuse. The possibility for lack of tailored treatment of patients and the desire to construct a single measure to apply to all patients are two obstacles of using quality care measurements. Some researchers claim that there is no such thing as a "average patient".

On the other hand, some argue that quality care measures improve overall quality and provide an incentive to raise overall care quality to a higher level. Demonstrating the value of quality care measures, a study conducted by (Huang & Li, 2018) issue of The New England Journal of Medicine showed improvements in the percentage of patients receiving influenza vaccinations and blood pressure treatment for prevention of kidney problems associated with diabetes. Performance measures allow us to quantify these baseline improvements in care. Quality measures have played an important role in guiding therapy and will continue to do so. However, in the future, a more complex, personalized approach to generating quality measurements could result in even higher benefits. As a result, the purpose of providing high-quality healthcare services is to maximize the possibility of reaching the patient's desired health outcomes. This concept also highlights the significance of using professional expertise when providing healthcare services.

Finally, there is no side that opposes quality measures; rather, there is a side that seeks better, less simplistic quality indicators that reflect clinical treatment recommendations and drive goals based on therapy risks and patient benefits.

### **2.2.4 Cost associated with poor quality in healthcare**

Everyone understands what the term "cost of poor quality" means. This is well acknowledged in the industrial world, since the downward spiral of revenue per unit of everything created has compelled most organizations to begin on a voyage of hunting, finding, and eliminating costs, which has gradually eroded their survival resilience.

Poor quality in the healthcare sector links closely to a loss of consumer trust, brand reputation and, ultimately, commercial value. Competitors can readily make a dent in such a situation by positioning a smarter way of operating, a new business model, and posing a

genuine threat to existence. Because they point out non-conformity and failures, the healthcare quality department is sometimes seen as a cost center or worse, a bearer of bad news. This problem can develop chronic in the context of a blaming or low-quality culture. By using a holistic approach to quality management, healthcare businesses may reduce the obvious and hidden costs of poor quality and use it as a true optimization tool to delight patients while also increasing profits. The exact cost of poor quality is difficult to determine. The visible costs of quality are, in fact, only the top of the iceberg. The pieces that give high level metrics and statistics are the easy-to-see and easy-to-measure parts like complaints, infection rates, and sub-optimal clinical result rates, but the less evident costs might have the most impact since they are hidden (Zarei et al., 2017).

The prices of poor quality are driven up by hidden costs below the waterline. Treatment protocol changes, deviations, customer complaints, lost appointments, poor turnaround time, discharge delays, re-dos, supplier errors, excessive inventory, long process times, inadequate facilities, degraded brand image, regulatory non-compliance, lost customer loyalty, and a slew of other issues are all hidden and difficult to quantify. The sources of the cost components associated with cost of poor quality are

Visible costs: poor clinical outcomes, redo's, waiting time, wasted time, wasted materials, customer complaints, repeated breakdown, low patient satisfaction rates.

Hidden costs: customer complaints, lost appointments, bad turnaround time, discharge delays, re- do's, supplier errors, excessive inventory, extended process times, requirement for working capital allocations, degraded brand image, lost customer loyalty, delays in general. As a result, quality leaders must coordinate change management. Updating policies, procedures, and work instructions, as well as assuring ongoing compliance, workforce training, and monitoring outcomes, are all examples of these actions. These efforts serve as the foundation for continual improvement and the resolution of the apparently complex cost of poor quality (Zarei et al., 2017).

### **2.2.5 Patient expectation:**

In general, the research agrees that expectations are beliefs, and that a particular reaction will be followed by some event, which will have either a positive or negative valence or affect implying that expectations are produced and sustained by a cognitive process Consumers can and do have a variety of expectations, according to researchers, and these

expectations are defined by a range rather than a single level (Thompson & Sunol, 2018). In terms of service expectations, (Ariffin, 2017) identified three categories:

- Desired Service - This is the level of service the customer expects, the "wished for" level of performance that combines what the client believes "can be" and "should be."
- Adequate Service - This is the "lowest acceptable level of performance" or "minimum tolerated expectation." This comes into play because customers understand that obtaining the desired service is not always attainable, therefore they maintain a second, lesser level of expectation.
- Predicted Service - This is the degree of service that the consumer anticipates receiving. It presupposes some sort of objective assessment of performance potential.

Another model proposed by Parasuraman et al (1991) described a "zone of tolerance" as the range between adequate and optimal levels of service expectations. Customers do not notice service performance outside of this range (either extremely high or very low), thus when performance falls outside of this range (either very high or very low), the customer communicates satisfaction or discontent. Unlike most past research, which has evaluated expectations solely in terms of outcomes, this model highlights the crucial distinction between outcome and process expectations. This would seem to make sense in the health-care context, because people's expectations for treatment outcomes, for example, may be much higher than those for process aspects, and their ranges are much narrower (Thompson and Sunol, 2018), i.e. the more important the service attribute, the narrower the zone of tolerance, and vice versa.

The notions of equity and attribution, in addition to expectations, have been offered as factors of consumer pleasure. According (Zarei et al., 2017), people are more satisfied when they believe they are being treated fairly, that is, when they can compare their gains to those of other customers and the service provider. Consumers, on the other hand, consider positive inequity (helpful to the customer) to be fair or satisfactory. This idea of equity is related to Festinger's theory of social comparison, which explains how social comparisons impact the creation and appraisal of beliefs, with people claiming whether or not their thoughts and evaluations are correct by comparing them to those of others. The attribution theory, on the other hand, comes into play when items or services fail to meet consumer expectations. It is assumed that people are looking for causes of events that may

or may not be related to the buyer or seller. Dissatisfaction is caused by the dispute that arises between the buyer and the vendor (Akbar & Pasiga, 2018).

Westbrook suggested a concept that patients can hold a dual independent factor situation in which a "consumer" retains both positive and negative affects at the same time, such as joy and interest, as well as rage, disgust, and contempt (1989). Satisfaction or discontent is an emotive reaction that can be positive or negative.

The disconfirmation paradigm is placed between the preconditions of expectations and attribute performance, and the outcome of satisfaction in this cognition-affect model of satisfaction. The importance of the direct link between attribute performance and satisfaction is also acknowledged. Positive and negative affect domains are considered as additional intermediates between attribution and satisfaction outcome. Equity is thought to play a separate role in satisfaction, unconnected of mood or other cognitive factors.

A small number of recent studies compared patients' perceptions of ideal and actual dental behavior to see if expectations were met. The 'desired service' component of Zeithaml and Bitner's 'zone of tolerance' notion is equivalent to 'ideal behavior.' These studies clearly demonstrate the disparity between the type of service that patients expect and the service that they actually receive. According to (Anang et al., 2020) for example:

‘The discrepancies found (between ideal and actual dentist behavior) fell mostly into the area of the ‘communicative and informative’ factor, ie the dentists often did not give information about preventive procedures, did not ask if the patient wanted local anesthesia, did not ask about the special problems of the patient and did not ask how the patient felt. Other discrepancies included not admitting if the procedure was too difficult and not washing hands.’

(Upadhyai et al., 2019) discovered that patient image of the dentist, physical signals, situational elements, and patient satisfaction with previous interactions tend to have the most influence on expectations, whereas marketing variables such as price and promotion appear to have no effect on expectations. Knowledge of patient expectations, according to the authors, is crucial because it allows dentists to adjust both the service delivery process and the service outcome to meet expectations, as well as actively manage patient expectations to ensure that they match the service to be offered. While such suggestions appear to be reasonable, research shows that there is a significant disconnect between patients' expectations and dentists' knowledge of those expectations. Burke and Croucher,

for example, had patients rate sixteen 'best practice' criteria. 42 Dentists proposed eight criteria, and patients proposed eight more, with the following three being the most popular among patients: 1. Procedures explanation 2. Hygiene and sterilization 3. Dentists' abilities (all criteria proposed by patients), The three lowest ranked items were: 1. Current equipment 2. A pleasant environment, and 3. A positive practice image (all criteria proposed by dentists). (Adebisi & Lawal, 2017) come to similar conclusions: Performing treatments efficiently is extremely important to 69 percent of patients surveyed, compared to 36 percent of dentists; 47 percent of patients said 'explaining infection management' is extremely important, compared to 12 percent of dentists. These and other research demonstrate that dentists assume they know what patients should desire rather than determining what they actually want.

Several recent studies have assessed the achievement of expectations by relating patient's views on ideal and actual behavior of dentist. These studies show the disparity between what patients expect and what they get. In a graded order from most to least desirable, (Arriffin et al., 2017) described an ideal dentist as follows: (I) communicative and instructive; (ii) tough and domineering; (iii) gentle and understanding; (iv) limiting contact to a minimum; and (v) vocational status. Individual opinions about the ideal dentist and patient were quantified by Likert –type scale statements. Both dentists and patients completed questionnaires containing comparable statements before and after treatment. The differences between each individual's ideal and real score were compared and cross-tabulated, and both dentists' and patients' expectations were met in terms of the ideal behavior that was directly linked to the treatment procedure. Patient expectations must be known so that dentists can change both the service delivery method and the service outcome to meet expectations and ensure that they match the service being provided (Anang et al., 2020).

#### **2.2.6 Perception of Service Quality:**

Quality improvement is a technique for gaining a competitive advantage in an industry and improving a health organization's reputation and profitability over time (Adebisi & Lawal, 2017). In order to survive and attain patient satisfaction, all hospitals have found it vital to measure, monitor, and enhance the quality of healthcare services. In addition, achieving the Millennium Development Goals will need the provision of high-quality services.

Healthcare executives must have a thorough understanding of how to improve the quality of care in practice. In such conditions, hospital executives focus their efforts on acquiring as many patients as possible and forming loyal customers by recognizing their needs and attempting to meet them effectively (Adebisi & Lawal, 2017). In a competitive context, Davis and colleagues 2017 validated the importance of monitoring healthcare quality.

In many areas, service production in the business differs radically from healthcare service provision: for example, one of the most prevalent approaches in healthcare to measure service quality is to use the consumers' (patients') perceptions of the services given.

The healthcare business is moving toward a consumer-oriented model, in which dentists are viewed as service providers and patients as clients. The therapeutic aspect of the patient-clinician connection is based on the clinical and interpersonal skills required to assure patient safety, care, and comfort, which are included in treatment planning and result in not just patient happiness but also gratitude. (Akbar & Pasiga, 2018).

Patients cannot assess the dentist's or clinician's medical competence, but their experience with the care process informs their impression of the quality of care and how it might be improved. Patient satisfaction is a generally established measure of healthcare efficiency, is critical in providing information on patient expectations, and has an impact on the service use patterns of dental schools. Highly satisfied patients have been observed to have improved compliance, as well as decreased anxiety and pain perception (Al dosari, 2017).

Patient satisfaction research and perceptions of service quality have aroused people's interest in dentistry. Previously, the dental profession was responsible for determining what constitutes good dental care; however, the patient's viewpoint is becoming increasingly essential. The majority of studies concentrate on a set of five characteristics that determine patient satisfaction with dental care, which are also related to Parasuraman and Berry's service quality dimension (1985). Technical expertise, interpersonal skills, convenience, cost, and facilities are among them. The following are descriptions of each of these dimensions:

**Technical Competence:** Studies show that this factor is a critical determinant of dental satisfaction. Patients, on the other hand, have been reported to find it difficult to accurately assess the technical quality of a service and hence build perceptions of the service based on

a variety of different cues that may or may not be visible to the provider (Zarei et al., 2017).

**Interpersonal Skills:** Aside from technical expertise, the success of dental care is determined by the dentist's and patient's behavioral habits, as well as how they communicate with one another. Communication is a 'key' component in this relationship because it is included in the care process. Dentists must focus on patients as 'individuals' and have real connection with them since patient happiness and quality care are intimately tied to the dentist's positive attitudes and communicating abilities. Patients' contentment isn't the only thing that matters. Dentists' communication behavior is positively connected to informed consent, yet the idea of informed consent demands dentists to sufficiently inform their patients so that they can make an informed decision regarding the treatment. Patients who made treatment decisions themselves were happier with their communication behavior than those who left it up to the dentist. There was a trend for patients who asked more questions to be happier with the dentist's communication style (Baldwin & Sohal, 2017).

When dentists are being trained, communication skills should be emphasized (Aldosari et al. 2017). Patients want empathy and a quick response to their issues. (Al-Azzam et al., 2017) found the highest quality discrepancy when it came to these two criteria. The general public, as well as individual patients, have a high level of faith in the dentistry profession. Because trust is both a moral ideal and a demand in health care, a greater understanding of the multifaceted nature of trust and its impact on care efficiency and quality is critical. The essential values and principles of dentistry are important to individual dentists and organized dentistry because they help to sustain professional status and the trust that comes with it (Khan, 2019). The dentist's and office staff's interpersonal skills were discovered to be the most critical factor determining dental client perception. Unlike technical quality, patients are in a good position to determine the most crucial characteristics a dentist should possess (Al-Azzam et al., 2017). According to one study, interpersonal skills are the most essential factor influencing dentist/practice loyalty, with 90% of respondents rating them as such (Al-Hussyeen, 2018).

**Convenience:** While convenience elements do not appear to be as important to patients as communication aspects, current research suggests that they are.

Studies discovered that opening hours, waiting time, and time spent with the dentist were three of the four least relevant "choice shaping" criteria for patients. Janda found that dentists should focus on core service qualities such as quality of service, professional competence, personality, and attitudes of dentists rather than convenience-oriented factors such as location and parking facilities. On the other hand, (Thi & Nhung, 2019) discovered that the worst areas were waiting time for an appointment and waiting time in the clinic to see the dentist. Participants were dissatisfied with the doctor's explanation of their disease, dental treatment, and medical record confidentiality; these areas need to be improved.

**Cost:** Although fees are a significant component in consumer perception, neither the fees nor the communication about fees appear to be a concern for patients. Patients with National Health Insurance (NHI) place a higher value on "knowing ahead of time how much the procedure will cost" (Golletz, 2017). The cost of treatment was cited as a factor for non-attendance or postponement of a dental appointment. Patients also stated that dental rates were perplexing and that dental treatment fees should be made public. The most common reason given for wanting to be a dental school patient was the low cost (Awad Allah et al., 2017)

In a Chinese research, despite the fact that dental services are extensively funded by the university, 13% of people avoided dental care due to the perceived high costs. According to the University Health Service Annual Reports, the rationale for this is that, even if dental treatment rates do not increase, students' dental fees will increase annually due to increased service usage. As a result, students may regard the whole dental service bill to be excessive. Furthermore, all students were aware of the reduction in the university dental service's subsidy. This may easily have led to a subjective belief that dental service rates had increased under the new fee-paying structure (Thi & Nhung, 2019).

**Facilities:** Patient perception has been proven to be influenced by the availability of new equipment, cleanliness, chair comfort, background music, these aspects are not as essential as the other factors stated (Braunsberger, 2019).

### **2.2.7 Patient satisfaction in dental health care**

Satisfaction is an indicator of healthcare quality based on the patient's perception. It also describes how well patients' requirements are satisfied and an acceptable level of care is

supplied, based on their expectations. The most frequent method to understand satisfaction is in terms of user expectations and perceptions of the services they receive. The perception of services and the prior expectations of users are frequently measured, rather than satisfaction itself (Righolt et al., 2019).

The user can assess their satisfaction with a particular component of a service as positive or negative, and the difference between expectations and what is received can be used to determine satisfaction level. The feeling of being well cared for and expectations being met are both sources of satisfaction. When performance falls short of expectations, dissatisfaction occurs. Many factors influence the level of patient satisfaction. In dental care, when professionals provide information with ease, clarity, and good communication, they are perceived as having good interpersonal qualities. Patient satisfaction and well-being are criteria for successful treatment. According to several studies, trust and a positive relationship with a professional boost patient satisfaction. Consumer expectations and perceptions of the service or product in question are balanced through a complex process of trust and satisfaction. The distinction between satisfaction and trust is that the former refers to the appraisal of a previously lived event, whilst the latter has a tendency for future instability also two large groups of factors related to satisfaction stand out: One is related to the service and its providers, and the other is inherent to the users themselves (Righolt et al., 2019).

One of the main goals to be achieved by health service providers is patient satisfaction. Because, in addition to better adherence to treatment, satisfied patients represent revenue, a good reputation, their return when in need of services, better results for the institution and a positive image of the professional. On the other hand, dissatisfied patients can result in a bad reputation, difficulties when prospecting new customers, loss of revenue, and trouble remaining in the labor market (Awad Allah et al., 2017).

Patient satisfaction, according to Avedis Donabedian, the father of quality assurance, is a view about the quality of care that is related to the patient's values and expectations ,he proposed that patient satisfaction was the primary outcome of the overall care process, particularly the interpersonal aspects of care. (Akbar & Pasiga, 2018) view patient satisfaction as a patient's subjective responses to the care that is experienced, which is mediated by their expectations and personal preferences. According to Fox and Storm, a person's orientation impacts satisfaction. Dissatisfaction occurs when patients' experiences

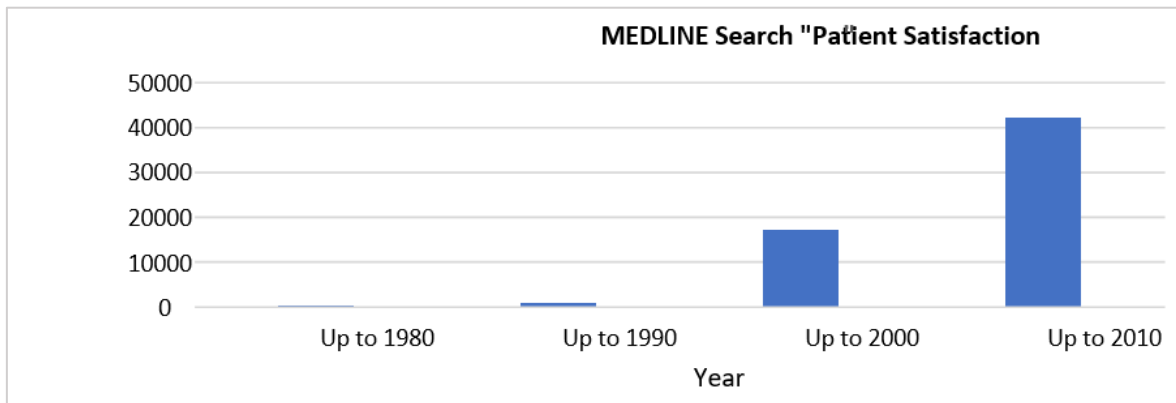
do not match their expectations. In Fox and Storm's exploratory model, they proposed two sets of variables, i.e. patient orientation (what patients want or expect from their treatment encounter) and conditions (that includes different approaches and the context of care). If both orientation and conditions coincide and are congruent, people will be satisfied with the care.

Many studies have been carried out in the social and health areas that have aimed to determine the expectations of patients and the degree of satisfaction with services. Health professionals, in general, are not good judges of patients' actual preferences, in part because patients often do not express their expectations and needs.

Customer satisfaction was first studied in the 1970s, when consumer movement was on the increase and closely tied to the quality of services given. In terms of customer satisfaction in the healthcare profession, a paper from 1984 measured consumer satisfaction as a measure of quality of life. Since then, there has been widespread agreement that health care cannot be deemed high-quality without measuring patient satisfaction.

Patient satisfaction in the dentistry profession can assist in identifying the strengths and weaknesses of dental clinics, allowing for better treatment quality and future planning. Patient satisfaction is a multifaceted notion that takes into account the patient's educational background, lifestyle, previous medical experience, and expectations when determining the degree of satisfaction (Anang et al., 2020).

- **Patient satisfaction studies**



**Source; Adapted from (Akbar & Pasiga, 2018))**

The increased research in this field is due to numerous factors, to begin with, patients are growing more sophisticated in terms of the type of care they receive, while health care practitioners are becoming more responsive to their patients' requirements. More competition for patients has emerged in both fee-for-service and prepaid provider marketplaces. Second, there is a growing awareness of the importance of evaluating health-care quality in terms of social acceptability rather than just economic efficiency and efficacy. For a more comprehensive assessment, it is essential to take into consideration consumer opinions about the care that is given to them.

Third, since the concept of patients as consumers has gained traction in health care, as has the link between satisfaction and greater service consumption, the incorporation of patient views and perspectives in the evaluation of health care services has become even more important. Thus, it is not only considered one of the desired “outcomes” of health care systems ,but patient satisfaction is also now said to measure the “process” of care, including all professional activities linked with delivering health care services (Akbar & Ayuandyka, 2019). Fourth, consumer satisfaction is not simply an outcome variable in and of itself; it can also operate as a mediator and contributor to other key outcomes, such as care-seeking behavior and compliance, which can have an impact on health outcomes and population health. Fifth, politics is entwined with all of these notions, and there are two schools of thought on the matter. One is that public opinion could help to democratize health-care services, making both the government and health-care providers more accountable. The second school of thought emphasizes "consumer sovereignty" and the necessity for health-care institutions to respond to societal requirements. Many academics

suggest that health-care quality is a social construct negotiated by health-care professionals, patients, and management; as a result, any quality-assurance procedure must include consumers in a feedback loop for auditing and improving treatment quality (Upadhyai et al., 2019).

Finally, in today's highly competitive health care market, assessing patient satisfaction is a key step toward determining success and building a competitive edge. According to studies, health organizations with higher patient satisfaction ratings are more successful and profitable. As a result, some health-care organizations have advocated for continual ongoing measurement of patient experiences in order to improve service quality and produce long-term value making patient experience a key component of various quality assurance programs (Baldwin & Sohal, 2018) .

### **2.2.8 The influence of socio-demographic characteristics on patients' perspective of dental service quality:**

The socio-demographic aspects of patients are frequently investigated, but they are also the least understood. Authors typically state that these patient variables indicate faint, erratic, or non-existent relationships. (Okullo et al. 2019) discovered that the inter-personal relationship with the dentist was the key to satisfaction with dental care among both urban and rural teenagers. Several studies seek to study probable links between patients age and education with perceived quality of service in healthcare. (Braunsberger et al., 2019) study showed that older male patients with a lower level of education are more satisfied with their healthcare and service quality than others.

The effect of socio-demographic characteristics of the patients in assessing service quality in general dental care has been unclear also. Studies seek to study this link in dental practice like a study in Al Zagazig University dental clinics that showed significant association between age and patient perception related to quality of services (Awad Allah et al., 2017) . In the other hand social and demographic properties of the patient do not affect the health-related services quality of patients in other studies according to study in Wroclaw university dental clinics in Poland and a research aimed at evaluating the quality of dental care in Iran (Al-Azzam et al., 2017).

(Okullo et al. 2017) showed that the key to satisfaction with dental services among both urban and rural adolescents was in the inter-personal interaction with the dentist .

**Education:** Care is more important to the less educated than to the educated. Higher educated people appear to value professional contact more, and they regard the dentist as an equal conversation partner. People with a tertiary education had more dental dissatisfaction (Manulik et al., 2018).

**Age:** Dental practices have distinct treatment challenges as the geriatric population grows. Dental treatment satisfaction is regarded as a critical factor that determines the geriatric patient's attitude and participation. It is linked to treatment quality and a variety of factors, including physical, emotional, social, and financial factors (Anang et al., 2020). Some researchers discovered no link between the degree of satisfaction with dental treatment and the factors of social activity, self-image, or level of anxiety. Good doctor-patient interactions, or "the art of care," are thought to have a significant impact on patient satisfaction, particularly among older patients (Upadhyai et al., 2019). According to studies, older individuals are generally more satisfied with their dental care. There was a strong link between dental staff satisfaction and the success of geriatric care (Djordjevic et al., 2019). Some studies found older patients to be less satisfied, and they interpreted their findings by the fact that younger patients' oral health is often better than older patients', which may lead to the latter enjoying a better dental care experience (Dewi et al., 2019).

**Gender:** Female patients have expressed more satisfaction with dental care than male patients. This is due to their increased exposure to dental treatments, which has the effect of lowering their expectations, which are more likely to be satisfied. Female patients are also thought to value knowledge and engagement in the decision-making process more than male patients, however this link has been demonstrated to be weak (Hall & Dornan, 2020).

**Economic Status:** Studies on higher education was found to be linked to increased satisfaction. Women in the medium and lower socioeconomic groups were more demanding than males in the same groups, whereas men in the upper socioeconomic groups were less demanding (Hall & Dornan, 2020).

Previous dental experience: There was a positive correlation between past dental experience and satisfaction. Oral health perceptions and degrees of satisfaction with oral health status were found to be tightly linked. Higher use of non-preventive dental services was linked to greater dissatisfaction with oral health status and perceptions of poorer oral health status (Akbar & Pasiga, 2018). The perception of a poor oral health status was highly linked to the use of restorative and periodontal treatments, while only a weak link was found with the use of preventative services. (Akbar & Pasiga, 2018) also discovered that people who had a dental appointment in the previous two years had significantly less accumulated oral neglect, less self-perceived difficulties, less non-reparable oral disease, and higher oral health values than those who had not. In terms of quality of care, length and number of appointments, treatment explanation, and fees, patients who had dropped out of care were less satisfied than active or recall patients.

Dental Anxiety: Dental anxiety is common, and is a notable factor for avoidance of dental care. In their study, according to (Anang et al., 2020), 20.8 percent of respondents had dental anxiety. This was more common among younger persons who were dissatisfied with the treatment they were receiving. The age range of 15-19 years had the lowest percentage of severely nervous subjects. The frequency of dental appointments is positively connected to dental anxiety.

### **2.2.9 Service quality in dental clinics and academic dentistry settings:**

The dentist-patient cooperation is at the heart of high-quality dental care; Interactions and links between dental workers and their patients, such as interpersonal relationships, information transmission, and care decisions, help to shape it (Khan, 2019). Moreover, in specialties such as orthodontics and periodontics, compliance to treatment and hence treatment quality has been shown to be influenced by patient perceptions of quality.

Consequently, the majority of academics feel that dental practitioners should promote achieving patient contentment through high-quality services (Manulik, et al., 2018). Similarly, according to the American Dental Association (ADA), the objective is to guarantee that quality of service meets or surpasses the requests of patients. Moreover, as a vital factor of quality assurance and a pre-emptive method aimed at reviewing and improving services in health care, the perception of patient of quality is becoming an increasingly significant aspect of the dental facility accreditation procedure. Dental schools

provide a unique role in the advancement of patient care through educating and training oral health care professionals, promoting research, and generating new information. They are dental care training institutions where students work under the guidance of experienced teachers. Students in dentistry schools receive clinical training to prepare them to deliver thorough and final treatment to patients, which includes proper diagnosis and treatment planning. Effective student training to provide the highest quality care to patients is a major issue among dental schools as well as a statutory responsibility of the institution, because they prepare dentists to become self-employed practitioners in order to meet future health-care difficulties and provide a competent workforce, enhancing student training in the delivery of patient-centered care while retaining high levels of clinical competence is consequently critical (Khan, 2019). As well, with recent health care trends, academic care providers are actually now in competition with private practitioners. Therefore, efficiently designed patient-centered care is necessary for these institutions to attract and retain a patient pool for students. Indeed, the success of a dental faculty partly depends on satisfying the needs of the patients receiving care. Academic institutions also have an important role when it comes to providing health care services to patients in need. These institutions often serve as safety nets and cater to large segments of the patient population due to the lower costs of dental treatment compared to private dental practices. In this regard, these organizations play a critical role in promoting oral health by providing low-cost, accessible care to underserved patient populations. In short, academic dentistry's interlocking mission as centers of research and innovation is to combine education and patient care to build a foundation upon which dental professionals can develop to provide services to underserved populations and thus promote the oral health and well-being of patients and populations. In this context, conducting quality surveys in academic settings can assist in better understanding the quality of care provided by faculty and identifying areas that may require improvement, all while improving the overall quality of care (Anang et al., 2020). Assessing patient perceptions of quality in academic dental settings must become a top concern in order to achieve this (Khan, 2019). Recently, studies on quality of health care and level of satisfaction among patients has piqued the interest globally; nevertheless, this type of studies are hardly undertaken in dentistry, particularly in Arab nations (Tashkandi et al., 2017).

### **2.2.10 Measurement of quality of service in dental practice in Arab countries**

Dental education in Arab countries is charged with difficulties. Despite the fact that funding for health education is a global issue, dental schools in Arab countries rely entirely on state support, which varies greatly between countries and even within the same country, posing severe issues in these austere times. This makes it difficult to carry out strategic goals in the face of rising demand for more students and government financed schools that provide subsidized or even free education to nationals (Hashim, 2018).

On the other hand, most private schools are for-profit businesses; hence, spending is determined by profit, which often has a negative impact on faculty recruitment, compromises admission criteria and results in poor investment in infrastructure. In recent years, the number of schools has increased in response to increased public demand for dentistry as a profession, rather than the oral health requirements of their local communities. Furthermore, the rapid growth of private schools, particularly in Arab nations, and the inability of faculty wages to keep up with those of private practitioners has resulted in difficulties in keeping professors in some public schools (Hashim, 2018).

Despite the above challenges and in light of the widespread use of information and communication technology among educators worldwide, the presence of highly trained Arab academics both locally and in internationally renowned institutes, the value placed on accreditation and quality assurance in dentistry education, and the fact that most dental school students are among the best in their respective countries, it should come as no surprise that respected schools who have been working to improve their standards, invest in their faculty, and seek worldwide recognition will continue to work toward the required curriculum structure while fulfilling local needs and providing important research (Al-Azzam et al., 2017).

The patient visits the dentist in order to obtain the service of treating or repairing his or her teeth, and as a result, the patient selects his dentist based on the dentist's service quality that is thought to be the best for the patient at the time in light of the health service dimensions considered. The patients treated by dental students at college of dentistry were highly satisfied with their care, according to (Awad Allah et al., 2017). Also, according to the findings of a study by (Al-Hussyeen, 2018) the majority of patients were satisfied with the facilities, services, and treatment received at King Saud University's Dental College clinics.

According to the study of (Sami Alhabib, 2021) the majority of patients were satisfied with the patient–dentist interaction, technical competency, administrative efficiency and clinic set up environment at the dental clinics of the College of Dentistry at Taibah University. In addition the study of (Tashkandi et al., 2017) is an examination for the two dimensions of SERVQUAL model ,According to the findings, the three highest gap scores in predicting patient satisfaction evaluation were administration staff's response to a long wait time, dental assistant's knowledge of the patient's needs during treatment, and communication related to the dentist's explanation for the treatment. On the other hand, the least gap obtained from the data are dental assistant's ability in assisting the dentist followed by dentist's knowledge about the patient's need and ability of the dentist to help and instill confidence in the patient about the treatment. (Hashim. 2018) aimed to determine patient satisfaction with dental care provided at Ajman University's Faculty of Dentistry. The majority of patients were satisfied with the care provided, with the exception of treatment choices explanation and clinic location. Measuring customer satisfaction is an important part of enhancing service quality and should be done on a regular basis.

The research of (Aghamolaei et al., 2019) intends to investigate the reality of health-care quality in public institutions using the quality of health service dimensions (reliability, responsiveness, safety, and empathy). Patients gave this application a positive rating, despite the fact that there is a disparity in the importance of criteria among dentists and patients when it comes to assessing the quality of health services. In research carried in dental clinics in Jordan, patients believe that dental clinics provide moderately high-quality services (Adebisi & Lawal, 2017). These findings are consistent with the results of other research, involving studies undertaken by (Zarei et al., 2017). However, according to (Alhabib, 2021), research that appraises service quality in health care is unusual in Saudi Arabia, particularly in dental hospitals. Even with the reality that Riyadh, for example, has the world's largest number of private hospital dental beds. There is some research on the quality of services offered at dental clinics in Arab universities, which are relevant to dental educational hospitals. A study conducted in a Saudi Arabian dentistry college found that 75% of participants were gratified with the quality of care provided. with uniformity of the delivered dental care, professionalism of dental students and professionals, communication skills were the most acceptable points whereas appointment system, long wait times were points that need to be addressed (Al-Husseyen, 2018). Similarly, an

Egyptian study conducted at Zagazig University dentistry clinics found that 82% of patients were satisfied with the level of care (Awad Allah et al., 2017). On the other hand (Tashkandi et al., 2017) said that majority of patients in a study conducted at Ajman University in the United Arab Emirates were frustrated with the care options and place of the clinics. There has been no research on the quality of dental services in Palestine, neither in public nor in teaching institutions dental clinics, to our knowledge.

There are various measuring models for assessing and evaluating service quality, SERVQUAL established by (Parasuraman et al., 1985) on the basis of service quality gap theory being the most frequent and commonly used. The quality gap, as defined by Parasuraman, is the difference between expectations and perceptions. This tool has been widely used in banking, hospitality, transportation, higher education, accounting, architecture, building, hospital services, as well as dental care (Khan, 2019) . SERVQUAL has been used to measure the quality of dental care in various studies. SERVQUAL was a good model for assessing the quality of dental services in terms of validity and reliability, according to Baldwin and Sohal's study (Baldwin & Sohal, 2018). The findings of the (Righolt et al., 2019) study have provided valuable insight into the effective application of SERVQUAL as a tool for assessing dental service quality.

## **Chapter 3**

### **Methodology**

Research methodology concerns to steering steps of implementing a research work. There are four main aspects of research methodology, which are Design, Sampling, Data collection and Data analysis. Studies are commonly seen as being either quantitative or qualitative. This chapter highlights the data collection methods, sample size, data collection tools, reliability, validity of the study instruments, ethical consideration and the study limitations.

#### **3.1 Study design**

The researcher used triangulated, analytical cross-sectional design to appraise QS delivered for patients at UPDCs based on patients' viewpoint. Cross sectional studies are done on a population at a specific point in time or over a short period of time. Additionally, these designs examine the association between variables; they are low-cost, quick, and easy to use (Polit & Beck, 2012). In contrast, it has certain defects, such as being unable to assess incidence, making causal inferences problematic, and being unable to explore the temporal relationship between outcomes and risk variables.

Methodological triangulation used in this study to provide a combination of quantitative (self-administered questionnaire to patients) and qualitative paradigms (focus group interview with other patients) .The combination of the two methodologies yields comprehensive information about the research domains that could not be obtained using just one method. In addition, the combination between the two approaches maximizing the benefits of both and minimizing the limitations of each (Cohen et al., 2000).

#### **3.2 Study population**

All adult patients treated in different departments at UPDCs in 2021 were included in the study. The clinics received in the last three years (from 2018 to 2020) 4247 patients in average.

### **3.3 Sampling process and sample size**

#### **3.3.1 Quantitative data**

Non-probability convenience sample was used in this study. Compared to other sampling approaches, a convenience sample is easier, takes less time, and costs less. In the last three years (2018-2019-2020), the average number of patients seen in clinics has been 4247.

EPI-INFO computed the sample size with a 95% confidence interval and a 5% margin of error. A total of 352 people was estimated to be included in the study (**Annex 2**).

#### **3.3.2 Qualitative data**

The patients were selected from the files for registering patients coming for treatment in the different departments of the clinic's day care clinics. Patients' files on the day of selecting the qualitative study sample consisted of fifty male and female patients, and after contacting them and explaining the purpose of the study. Eighteen patients agreed to participate, and this number consisted of twelve females and six males. With a total of three focus groups the researcher divided participants into: two groups of females (each group containing 6 females) and a group of males containing the 6 males who agreed to participate in the study.

### **3.4 Study setting**

The study was conducted at University of Palestine Dental Clinics (UPDCs) in five departments: Operative, Endodontic, Surgery, Prosthodontics and Periodontics clinical departments.

### **3.5 Eligibility criteria**

#### **3.5.1 Inclusion criteria:**

Male and female adult patients who attended the UPDCs were included in the study.

#### **3.5.2 Exclusion criteria:**

Only patients who came to the pedodontics department were excluded from the study. As the patients in this section are children whose age does not exceed six years, and studies that used the same tool for the study excluded them for their inability to understand the

dimensions and purpose of the questionnaire and their inability to fill it out without the help of their parents.

### **3.6 Data collection**

#### **3.6.1 Quantitative part:**

The data was collected using a self-administered format interview questionnaire after the pilot study was completed to prevent any possible bias. The researcher explained the purpose of the questionnaire to the patients. In addition, any ambiguous material was simplified by the researcher to guarantee that the participants gave accurate and truthful answers. After receiving full information about the study purposes and objectives, participants were informed that their participation is optional and they have the right not to answer any questions. After approval, the researcher collected face-to-face interviews to fill in the questionnaire. On average, each questionnaire required from 20 to 25 minutes to be completed and reviewed to make sure of no missing answers. The researcher took great care to preserve confidentiality by allowing participants ample time to answer the questions and encouraging them to be truthful in their responses.

#### **3.6.2 Qualitative part:**

The second constituent of the data collection was focus group interviews with eighteen participants. Open-ended questions formed and asked to participants by the researcher.

The researcher presented himself to the patients; explained the goals for the research and the importance for their enrollment in the research as their opinions will be a tool for improving the quality of dental services provided for patients at UPDCs. The researcher ensured that all the participants agreed to participate (informed consent). The researcher confirmed the confidentiality and privacy of the given data. The interviews schedule contained questions that were brief and reasonable. The interviews were conducted in a private relaxing environment. The researcher decided the place for meeting the focus groups, as it is quiet, accessible, neutral, secure and comfortable after selecting the participants for focus groups. Open-ended questions are used to allow the participants to express their perception in their own words, using probing techniques, controlling the discussion by giving nonverbal cues and minimizing the group pressure. Remarks made and recorded during the interviews so that further information collected.

### 3.7 Study instruments

In this study, two instruments were used:

#### 3.7.1 Quantitative instrument:

Contained self-administered interview questionnaire. The SERVQUAL questionnaire was used to assess service quality based on the dimensions of tangibles, reliability, responsiveness, assurance, and empathy (**Annex 3**), as well as to detect the gap between expected and perceived QS from patient viewpoint, as defined by (Parasuraman et al., 1985). Because of extensive field testing and improvement, SERVQUAL is a statistically valid tool. (Djordjevic, 2019) used it in a study comparing patients' views and expectations in private and public hospitals, and Taiwo Adebayo used it in a study of Nigerian dentistry clinics in 2017. (Baldwin & Sohal, 2018) described the Servqual as the most widely used standardized questionnaire for assessing quality of services. Servqual has two sections, the first talks about the sociodemographic information of the contributors of the study whereas the second comprises thirty-two items questionnaire with sixteen questions for perceptions and the same for expectation of service quality. Each item was assessed on a 5-item Likert-type scale (1- Strongly disagree to 5- Strongly agree).

#### Quality gap

The quality gap is the difference between perception and expectation scores for each study domain. Service quality can be abstracted as a simple equation:

$$SQ = P - E \quad \text{Where,}$$

**SQ** is service quality

**P** is the individual's perceptions of given service delivery

**E** is the individual's expectations of a given service delivery

When patient expectations are greater than their perceptions, service quality is considered low. When perceptions exceed expectations then service quality is high (Parasuraman et al., 1985).

### 3.7.2 Qualitative instrument:

The second instrument was open ended (semi-structured) questions (Annex 5), which were asked by the researcher during FG interview to three groups of patients each group contains six participants, in order to cover all interview dimensions. The sessions typically last for one hour. The interviews were planned depending on a list of issues discussed.

### 3.8 Pilot study

Pilot study was performed by the researcher with thirty individuals (which were excluded from the study sample), to test the questionnaire validity and reliability as shown in the tables below.

#### Validity:

The correlation between each item and the domain's overall score was calculated by the researcher as follows:

**Table (3.1): Correlation between each item and total score of its domain (Expectation Scale)**

No.	Domains and items	Correlation
<b>Tangibles</b>		
1	This dental clinic would have up-to-date equipment	0.852 **
2	This dental clinic's physical facilities would be visually appealing.	0.837 **
3	This dental clinic's employees would be neat appearing.	0.754 **
<b>Reliability</b>		
4	This dental clinic would provide their services at the time they promise to do so.	0.780 **
5	When patient has a problem, dental clinic workers should show a sincere interest in solving it	0.853 **
6	It's expected that dentists would insist on error free treatment.	0.791
<b>Responsiveness</b>		
7	This dental clinic's workers would tell patients exactly when services will be performed.	0.759 **
8	It is realistic for patients to expect prompt service from the dental clinic staff.	0.759 **
9	Clinics employees would always be willing to help patients.	0.788 **
10	Clinics employees will never be too busy to respond to patients' requests and complaints.	0.722 **
<b>Assurance</b>		
11	Patients should feel safe in transactions with this dental clinic staff.	0.785 **
12	The dental clinic staff should have the knowledge to answer patients' questions.	0.855 **
13	Employees of clinics would be consistently courteous with patients.	0.780 **
<b>Empathy</b>		
14	This dental clinic's staff would be expected to give patients personal attention.	0.836 **
15	It is realistic to expect clinic staff to have their patient's best interests at heart.	0.852 **
16	Staff of dental clinics should understand the specific needs of their patients.	0.787 **

\*\*significant at 0.01

As shown in table (3.1), the items of each domain have statistically significant correlation with the total score of its domain.

**Table (3.2): Correlation between total score of each domain and the total score of the scale (Expectation Scale)**

No.	Domains	Correlation
1	Tangibles	0.744 **
2	Reliability	0.707 **
3	Responsiveness	0.798 **
4	Assurance	0.753 **
5	Empathy	0.733 **

\*\*significant at 0.01

Each domain has a statistically significant correlation with the scale's total score, as shown in table (3.2).

**Table (3.3): Correlation between each item and total score of its domain (Perception Scale)**

No.	Domains and items	Correlation
<b>Tangibles</b>		
1	This dental clinic has up-to-date equipment.	0.833 **
2	This dental clinic's physical facilities are visually appealing	0.783 **
3	This dental clinic has neat looking staff	0.766 **
<b>Reliability</b>		
4	This dental clinic provides its services at the time it promises to do so	0.826 **
5	When patient have a problem, dental clinic staff shows sincere interest in solving it.	0.816 **
6	The staff insists on error free treatment.	0.755 **
<b>Responsiveness</b>		
7	The dental clinic staff tell patients exactly when services will be performed.	0.236 **
8	Patients receive prompt service from the dental clinic staff.	0.179 **
9	This dental clinic's staff are always willing to help patients.	0.244 **
10	Clinics employees are never too busy to respond to patients' requests and complaints	0.146 **
<b>Assurance</b>		
11	Patients feel safe in their interactions with dental clinic staff.	0.853 **
12	The dental clinic staff have the knowledge to answer patients' questions.	0.831 **
13	Staff of dental clinics are consistently courteous with patients.	0.733 **
<b>Empathy</b>		
14	The dental clinic staff give patients personal attention.	0.819 **
15	The dental clinic's staff have patients' best interests at heart	0.823 **
16	Staff of dental clinics understand the specific needs of their patients.	0.817 **

\*\*significant at 0.01

As shown in table (3.3), the items of each domain have statistically significant correlation with the total score of its domain.

**Table (3.4): Correlation between total score of each domain and the total score of the scale (perception Scale)**

No.	Domains	Correlation
1	Tangibles	0.711 **
2	Reliability	0.733 **
3	Responsiveness	0.627 **
4	Assurance	0.743 **
5	Empathy	0.709 **

\*\*significant at 0.01

As shown in table (3.4), each domain has statistically significant correlation with the scale's total score

**Reliability:**

**Cronbach alpha method:**

To test the reliability of each domain of the questionnaire, the researcher employed the Cronbach alpha method. The results are listed in the table (3.5)

**Table (3.5): Cronbach alpha coefficient (Expectation Scale)**

No.	Domain	No. of items	Correlation
1	Tangibles	3	0.746
2	Reliability	3	0.731
3	Responsiveness	4	0.748
4	Assurance	3	0.731
5	Empathy	3	0.761
<b>Total score</b>		<b>16</b>	<b>0.880</b>

The items of the questionnaire have high reliability, as shown above in table (3.5), with a Cronbach alpha coefficient of 0.880. Therefore, the questionnaire was valid and reliable, making it appropriate for use in this study.

**Table (3.6): Cronbach alpha coefficient (perception)**

No.	Domain	No. of items	Correlation
1	Tangibles	3	0.708 **
2	Reliability	3	0.715 **
3	Responsiveness	4	0.753 **
4	Assurance	3	0.730 **
5	Empathy	3	0.751 **
<b>Total score</b>		<b>16</b>	<b>0.886 **</b>

The items of the questionnaire have high reliability, as displayed in table (3.6), with a Cronbach alpha coefficient of 0.886. As a result, the questionnaire was valid and reliable, and it was adequate for use in this study.

### **3.9 Data entry and statistical analysis**

#### **3.9.1 Quantitative part:**

The Statistical Package for Social Science (SPSS) program (version20) was used for data entry, data cleaning, and statistical analysis. The first phases in data entry were the creation of the entry base and the coding of variables, followed by real data entering. Data entry was completed at the time of data collection. During the analytical step, data purification and data management for the variables of interest were conducted. To compare the difference between means of patients' expectations and perceptions of the quality of services offered at UPDCs, the researcher utilized a parametric test such as the T-test. The ANOVA test, which compares more than two means, is particularly useful for identifying differences in the quality of services provided in dental clinics based on age. With a 95 percent confidence interval, the level of significance was chosen at  $p < 0.05$ .

#### **3.9.2 Qualitative part:**

The transcripts of the FG interviews were analyzed using an open coding theme analysis method. The researcher obtained the main findings from the audio recordings of focus groups. The data management was started with deep reading of the raw data brought from the transcripts.

The notes were taken to identify the important items, which are concerned about quality of care services and quality dimensions from patient perspective. The researcher then started with the axial coding through the disaggregation of core themes.

During qualitative data analysis. Axial coding is a qualitative research technique that performed by relating data together in order to reveal codes, categories, and subcategories ground within participants' voices. In other words, axial coding is one way to construct linkages between data (Allen, 2017). The approach was to reconstruct the data in a meaningful or comprehensible manner after the researcher exhibited the relevant data in such a way that the interpretation became understandable. Comparison and integration of quantitative and qualitative data was done, and finally, creation of rich items for discussion and interpretation.

### **3.10 Scientific rigor**

#### **3.10.1 Quantitative study:**

##### **Validity:**

Dental, medical professionals and experts in research evaluated the face and content validity of the questionnaire and their advices were taken in consideration. In addition, before real data collection, a pilot study was conducted to see how patients replied to the questionnaire and grasped the questions . Few modifications were done to ensure that it was widely understood which would improve the questionnaire's validity.

##### **Reliability:**

The following procedures were taken to assure instrument reliability:

1. The datacollection was standardized; the obtained data was checked over the time of the work.
2. Data entry was performed on the same day as data collection to allow for possible data quality interventions and the ability to re-fill the questionnaire as needed.
3. When finishing data entry, 5% of the data was re-entered to confirm that the procedure was completed correctly and thereby eliminate errors.
4. Data were checked for internal consistency of its domains to demonstrate the appropriate clustering of items. Each domain was individually assessed using

Cronbach's alpha, the standard statistical technique for assessing the coherency of each item within each domain.

### **3.10.2 Qualitative study (FG interviews):**

Data trustworthiness replaces the concepts of reliability and validity. Trustworthiness of qualitative data will be achieved through assuring following many steps:

- a) Credibility: confidence in the truth of the findings.
- b) Transferability: is the generalization of the study findings to other situations and contexts.
- c) Dependability: the findings are consistent and could be repeated.
- d) Confirmability: the researcher is neutral; the findings are shaped by the participant and not researcher bias (Devault, 2017).

The researcher took the following steps to assure the trustworthiness of the qualitative data:

1. The researcher recorded the interviews and produced transcripts of the data (Annex 6).
2. The researcher started writing early and immediately analyzed the focus groups interviews when they were completed. This allowed the researcher to memorize voice tones, facial expressions, body reactions and the general discussion environment. This enhanced the transparency and reliability of the results.
3. The research credibility is enhanced by the use of multiple data collecting and analysis methodologies. To control bias and create valid propositions and relationships, the researcher used triangulation research.
4. The researcher asked experts to review the open-ended questions, which the researcher prepared previously for the interviews with the focus group participants. This step was essential to enhance the quality of the questions and assure that it will get the required answers for the research study.
5. The researcher simultaneously collected and analyzed qualitative data. This allowed the researcher to connect what is known with what needs to be known.
6. The researcher employed independent coding of qualitative data, consistent recording of observations, and consensus discussions to assure data analysis integrity.

### **3.11 Ethical considerations**

The Helsinki Committee and the School of Public Health at Al-Quds University were approached for ethical approval (**Annex7**). The University of Palestine granted administrative approval for the study to take place there (**Annex 8**). All participants were asked to sign a consent form agreeing to take part in the study and informed that their participation was voluntary (**Annex4**).

### **3.12 limitations of the study**

The findings of this study could be useful in developing new strategies to improve patient experiences with dental treatments provided by the University of Palestine Faculty of Dentistry. Focusing on how patients perceive care is one effective way to address their issues. Furthermore, patient-centered care would be impossible to achieve without collecting data on patient satisfaction and responding effectively to it. The study gives significant information from the perspective of patients on critical aspects of quality and suggests areas that may need improvement. It might also be used as a starting point for tracking and evaluating patient satisfaction over time. Furthermore, the findings of this study might be used to refocus and improve dentistry education by teaching students about specific areas of weakness.

There were some limitations to the study as well. First, our sample was a convenience sample, and the fact that it was not a randomly drawn limits its external validity to the faculty patient population as a whole. Moreover, only patients' views on the quality of dental services were studied in this study, although other stakeholders' viewpoints, like physicians', managers', and other service providers', must also be investigated. Finally, caution must be taken to not generalize the results of this study to population in general, since the people in this study represent patients receiving care at a university-based clinic.

## Chapter 4

### Results and Discussions

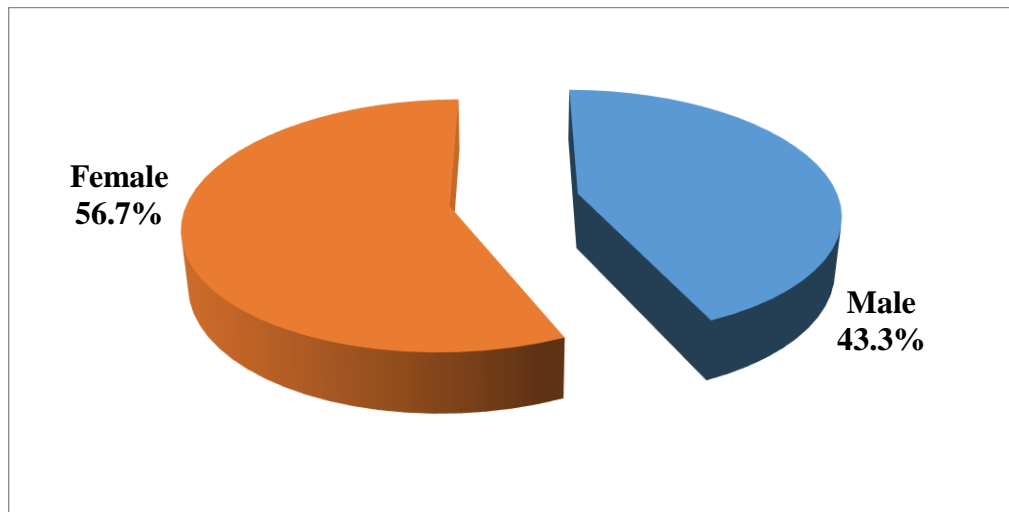
This chapter displays the main quantitative and qualitative study findings. A descriptive analysis of the study participants' demographic characteristics was carried out. To achieve the study's core objectives, description interpretations were followed by inferential statistics. Furthermore, a qualitative finding was shown in comparison to the quantitative results.

#### 4.1 Main quantitative findings

##### 4.1.1 Descriptive analysis

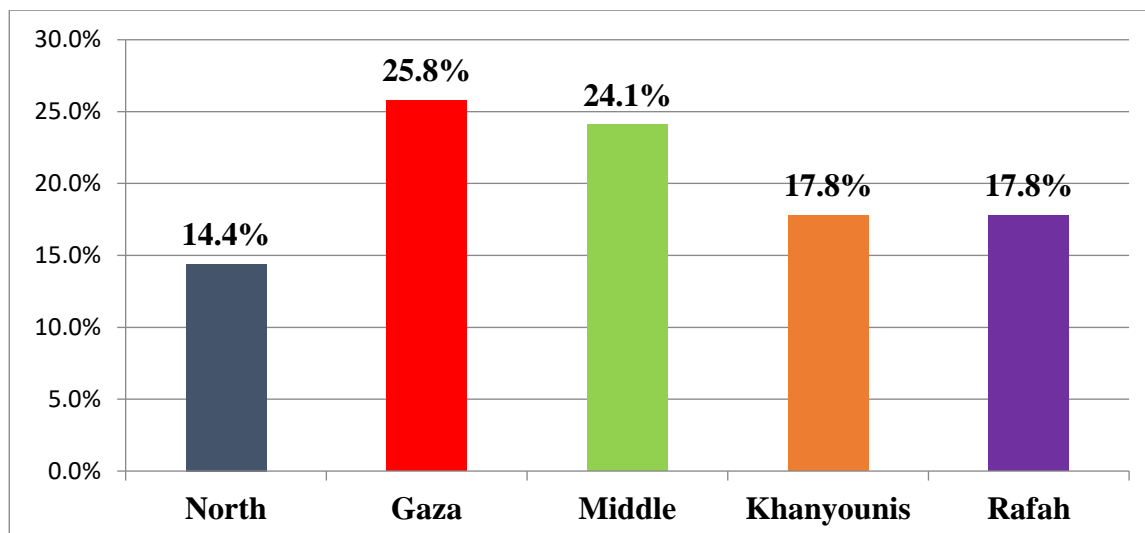
##### 4.1.1.1 Sociodemographic characteristics of study participants:

A total of 353 patients consented and filled the questionnaire and the results of their demographic characteristics were as follows:



**Figure (4.1): Distribution of study participants by gender**

Figure (4.1) displayed that 153 (43.3%) of study participants were males and 200 (56.7%) were females. This means that the female participants were more than the male participants, which comes in line with the two studies conducted in dental clinics at the University of Ajman (63% female) United Arab Emirates and Al Zagazig University dental clinics in Egypt (82,8%).



**Figure (4.2): Distribution of study participants by place of residency**

Figure (4.2) illustrated that 91 (25.8%) of study participants came from Gaza governorate, 85 (24.1%) were from the Middle governorate, 63 (17.8%) were from Khan Younis governorate, 63 (17.8%) were from Rafah governorate, and 51 (14.4%) were from the North governorate.

**Table (4.1): Sociodemographic characteristics of study participants (n= 353)**

Variable	n	Percentage (%)
<b>Age</b>		
20 years and less	50	14.2
21 – 30 years	114	32.3
31 – 40 years	73	20.7
41 – 50 years	70	19.8
51 years and more	46	13.0
Total	353	100.0
Mean age = 34.76±13.510 years		
<b>Marital status</b>		
Single	125	35.4
Married	188	53.3
Divorced/ widowed	40	11.3
Total	353	100.0
<b>Level of education</b>		
Prep school and less	37	10.5
Secondary school	73	20.7
University	243	68.8
Total	353	100.0

Table (4.1) presented that 114 (32.3%) of study participants were between the ages of 21 – 30, in addition 70 (19.8%) aged 41 – 50 years, the mean age was  $34.76 \pm 13.510$  years which is exactly the same mean age of the participants in the study conducted in dental clinics at the University of Dammam in Saudi Arabia  $34.7(SD \pm 12.5)$ , 188 (53.3%) were married, and 125 (35.4%) were single, 243 (68.8%) have university education, 73 (20.7%) have secondary school education, and 37 (10.5%) have prep school education and less, means that the largest proportion of the participants were among the people who have received or are still receiving a university education which is consistent with the result of the study conducted in dental clinics at the University of Ajman in United Arab Emirates.

#### 4.1.1.2 Quality of services in dental clinic:

##### - Expectations of patients:

**Table (4.2): Patients' expectation about the quality of services in the dental clinic (n= 353)**

No.	Item		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	SD	Weighted mean	Rank
<b>Tangibles</b>											
1	This dental clinic would have up-to-date equipment	n	13	51	53	185	51	3.59	1.021	71.8	3
		%	3.7	14.4	15.0	52.4	14.4				
2	This dental clinic's physical facilities would be visually appealing.	n	11	40	66	180	56	3.65	0.980	73.0	2
		%	3.1	11.3	18.7	51.0	15.9				
3	This dental clinic's employees would be neat appearing.	n	1	21	55	200	76	3.93	0.795	78.6	1
		%	0.3	5.9	15.6	56.7	21.5				
<b>Total average</b>								<b>3.72</b>	<b>0.763</b>	<b>74.4</b>	
<b>Reliability</b>											
4	This dental clinic would provide their services at the time they promise to do so.	n	12	42	72	159	68	3.65	1.029	73.0	3
		%	3.4	11.9	20.4	45.0	19.3				
5	When patient has a problem, dental clinic workers should show a sincere interest in solving it	n	3	36	70	167	77	3.79	0.927	75.8	1
		%	0.8	10.2	19.8	47.3	21.8				
6	It's expected that dentists would insist on error free treatment.	n	5	40	71	157	80	3.76	0.976	75.2	2
		%	1.4	11.3	20.1	44.5	22.7				
<b>Total average</b>								<b>3.73</b>	<b>0.788</b>	<b>74.6</b>	

No.	Item		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	SD	Weighted mean	Rank
<b>Responsiveness</b>											
7	This dental clinic's workers would tell patients exactly when services will be performed.	n	16	35	79	161	62	3.62	1.030	72.4	4
		%	4.5	9.9	22.4	45.6	17.6				
8	It is realistic for patients to expect prompt service from the dental clinic staff.	n	0	34	96	170	53	3.69	0.843	73.8	2
		%	0	9.6	27.2	48.2	15.0				
9	Clinics employees would always be willing to help patients.	n	4	30	75	161	83	3.82	0.927	76.4	1
		%	1.1	8.5	21.2	45.6	23.5				
10	Clinics employees will never be too busy to respond to patients' requests and complaints.	n	8	32	92	151	70	3.69	0.965	73.8	2
		%	2.3	9.1	26.1	42.8	19.8				
<b>Total average</b>								<b>3.70</b>	<b>0.711</b>	<b>74.0</b>	
<b>Assurance</b>											
11	Patients should feel safe in transactions with this dental clinic staff.	n	11	34	65	178	65	3.71	0.977	74.2	3
		%	3.1	9.6	18.4	50.4	18.4				
12	The dental clinic staff should have the knowledge to answer patients' questions.	n	6	25	71	168	83	3.84	0.922	76.8	2
		%	1.7	7.1	20.1	47.6	23.5				
13	Employees of clinics would be consistently courteous with patients.	n	8	21	48	175	101	3.96	0.930	79.2	1
		%	2.3	5.9	13.6	49.6	28.6				
<b>Total average</b>								<b>3.83</b>	<b>0.760</b>	<b>76.6</b>	
<b>Empathy</b>											
14	This dental clinic's staff would be expected to give patients personal attention.	n	16	36	72	160	69	3.65	1.047	73.0	3
		%	4.5	10.2	20.4	45.3	19.5				
15	It is realistic to expect clinic staff to have their patient's best interests at heart.	n	3	27	71	178	74	3.83	0.875	76.6	2
		%	0.8	7.6	20.1	50.4	21.0				
16	Staff of dental clinics should understand the specific needs of their patients.	n	3	29	64	173	84	3.87	0.899	77.4	1
		%	0.8	8.2	18.1	49.0	23.8				
<b>Total average</b>								<b>3.78</b>	<b>0.776</b>	<b>75.6</b>	
<b>Grand average</b>								<b>3.75</b>	<b>0.567</b>	<b>75.0</b>	

As presented in table (4.2), the results of Patients' expectation about the quality of services in the dental clinic according to the five quality dimensions which showed:

- Tangibles: The highest score in tangibles domain was in “It's expected that the dental clinics staff would be neat appearing” with mean score 3.93 and mean percent 78.6% and the lowest patient's expectation in this domain was in “It's expected that these dental clinics would have up-to-date equipment” with mean score 3.59 and mean percent 71.8%.
- Reliability : The highest score was in “It's expected that when patient has a problem, dental clinics staff would show a sincere interest in solving it” with mean score 3.79 and mean percent 75.8% while the lowest score was in “It's expected that these dental clinics would provide their services at the time they promise to do so” with mean score 3.65 and mean percent 73%.
- Responsiveness : The highest patients expectation in responsiveness domain was in “It is expected that the clinics staff should always be willing to help patients” with mean score 3.82 and mean percent 76.4% and the lowest expectation was in “It is expected that the dental clinics staff should tell patients exactly when services will be performed” with mean score 3.62 and mean percent 72.4%.
- Assurance: In assurance domain, the highest score was in “It is expected that the staff of clinics should be consistently courteous with patients” with mean score 3.96 and mean percent 79.2% with lowest score was in “Patients should feel safe during communication with this dental clinics staff” with mean score 3.71 and mean percent 74.2%.
- Empathy: The highest score for patient's expectation in empathy domain was in “It is expected that staff of dental clinics should understand the specific needs of their patients” with mean score 3.87 and mean percent 77.4% while the lowest score was in “The dental clinic staff should be expected to give patients personal attention” with mean score 3.65 and mean percent 73%.

**Table (4.3): Overall patients' expectation about the quality of service in the dental clinic**

<b>Domain</b>	<b>Mean</b>	<b>SD</b>	<b>%</b>	<b>Rank</b>
Tangibles	3.72	0.763	74.4	4
Reliability	3.73	0.788	74.6	3
Responsiveness	3.70	0.711	74.0	5
Assurance	3.83	0.760	76.6	1
Empathy	3.78	0.776	75.6	2
<b>Overall average</b>	<b>3.75</b>	<b>0.567</b>	<b>75.0</b>	

Table (4.3) presented the overall expectations of the patients. With a mean score of 3.83, the highest score was given to assurance, mean percent was 76.6%, within focus group interviews patients ensured our interpretation as one young female said: " *And the most thing I expected to be fine is the behavior of the staff. It is expected that their behavior will be polite and classy, as I am not only receiving health care, but also within the institution that teaches students things as it should*". Empathy came in second with a mean score of 3.78 and a mean percent of 75.6 percent, reliability came in third with a mean score of 3.73 and a mean percent of 74.6 percent, tangibles came in fourth with a mean score of 3.72 and a mean percent of 74.4 percent, and responsiveness came in last with a mean score of 3.70 and a mean percent of 74 percent, which is congruent with the FG interviews. as one young female said: " *Indeed, I expect a change in the dates and nothing will be fixed because most of the therapists are trained students, but there will be a response to any complaint from my side*". our results were contrast the study conducted in Nigeria, where the highest score in expectation for patients was in tangibility and the lowest was in reliability it could be that Palestinian patients were more focused on compassionate and emotional aspect.

- Perception of patients:

Table (4.4): Patients' perception about the quality of services in the dental clinic (n=353)

No.	Item		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	SD	Weighted mean	Rank
<b>Tangibles</b>											
1	This dental clinic has up-to-date equipment.	n	5	16	22	191	119	4.14	0.831	82.8	3
		%	1.4	4.5	6.2	54.1	33.7				
2	This dental clinic's physical facilities are visually appealing	n	4	12	21	205	111	4.15	0.768	83.0	2
		%	1.1	3.4	5.9	58.1	31.4				
3	This dental clinic has neat looking staff	n	6	4	17	176	150	4.30	0.762	86.0	1
		%	1.7	1.1	4.8	49.9	42.5				
<b>Total average</b>								<b>4.19</b>	<b>0.625</b>	<b>83.8</b>	
<b>Reliability</b>											
4	This dental clinic provides its services at the time it promises to do so.	n	7	21	37	161	127	4.08	0.937	81.6	3
		%	2.0	5.9	10.5	45.6	36.0				
5	When patient have a problem, dental clinic staff shows sincere interest in solving it.	n	4	5	43	163	138	4.21	0.794	84.2	2
		%	1.1	1.4	12.2	46.2	39.1				
6	The staff insists on error free treatment.	n	2	10	30	170	141	4.24	0.770	84.8	1
		%	0.6	2.8	8.5	48.2	39.9				
<b>Total average</b>								<b>4.17</b>	<b>0.667</b>	<b>83.4</b>	
<b>Responsiveness</b>											
7	The dental clinic staff tell patients exactly when services will be performed.	n	5	19	30	185	114	4.09	0.863	81.8	4
		%	1.4	5.4	8.5	52.4	32.3				
8	Patients receive prompt service from the dental clinic staff.	n	0	21	41	167	124	4.12	0.833	82.4	3
		%	0	5.9	11.6	47.3	35.1				
9	This dental clinic's staff are always willing to help patients.	n	4	10	28	185	126	4.19	0.786	83.8	2
		%	1.1	2.8	7.9	52.4	35.7				
10	Clinics employees are never too busy to respond to patients' requests and complaints.	n	6	12	31	155	149	4.22	0.869	84.4	1
		%	1.7	3.4	8.8	43.9	42.2				
<b>Total average</b>								<b>4.15</b>	<b>0.711</b>	<b>83.1</b>	
<b>Assurance</b>											
11	Patients feel safe in their interactions with dental clinic staff.	n	10	15	36	171	121	4.07	0.931	81.4	3
		%	2.8	4.2	10.2	48.4	34.3				
12	The dental clinic staff have the knowledge to answer patients' questions.	n	0	14	38	163	138	4.20	0.786	84.0	2
		%	0	4.0	10.8	46.2	39.1				
13	Staff of dental clinics are consistently courteous with patients.	n	3	6	19	166	159	4.34	0.733	86.8	1
		%	0.8	1.7	5.4	47.0	45.0				
<b>Total average</b>								<b>4.20</b>	<b>0.661</b>	<b>84.0</b>	
<b>Empathy</b>											
14	The dental clinic staff give patients personal attention.	n	6	21	39	156	131	4.09	0.931	81.8	3
		%	1.7	5.9	11.1	44.2	37.1				
15	The dental clinic's staff have patients' best interests at heart	n	1	12	32	163	145	4.24	0.778	84.8	2
		%	0.3	3.4	9.1	46.2	41.1				
16	Staff of dental clinics understand the specific needs of their patients.	n	2	14	24	153	160	4.29	0.806	85.8	1
		%	0.6	4.0	6.8	43.3	45.3				
<b>Total average</b>								<b>4.20</b>	<b>0.686</b>	<b>84.0</b>	
<b>Grand average</b>								<b>4.07</b>	<b>0.470</b>	<b>81.4</b>	

Table (4.4) revealed the results of patients' perception about the quality of services at UPDCs according as follows:

- Tangibles: “These dental clinics have neat looking staff” had the highest score in tangibles with mean score 4.30 and mean percent 86% and “These dental clinics have up-to-date equipment” had the lowest score with mean score 4.14 and mean percent 82.8%.
- Reliability: “The dentists insist on complications free treatment.” With mean score 4.24 and mean percent 84.8% received the highest score in reliability while “These dental clinics provide its services at the time it promises to do so” had the lowest score in this domain with mean score 4.08 and mean percent 81.6% .
- Responsiveness: highest score in responsiveness was in “The dental clinics staff are never too busy to respond to patients' requests and complaints” with mean score 4.22 and mean percent 84.4% and lowest score was in “The dental clinics staff tell patients exactly when services will be performed” with mean score 4.09 and mean percent 81.8%.
- Assurance: the highest score was in “The staff of dental clinics deals consistently courteous with patients.” with mean score 4.34 and mean percent 86.8% while the lowest perception for patients in this domain was for “Patients feel safe during their communication with dental clinics staff” with mean score 4.07 and mean percent 81.4%.
- Empathy: “Staff of dental clinics understand the specific needs of their patients” with mean score 4.29 and mean percent 85.8% had the highest score in empathy while the lowest perception for patients regarding this domain was in “The dental clinics staff give patients personal attention” with mean score 4.09 and mean percent 81.8%.

**Table (4.5): Overall patients' perception about the quality of services in the dental clinic (n= 353)**

Domain	Mean	SD	%	Rank
Tangibles	4.19	0.625	83.8	3
Reliability	4.17	0.667	83.4	4
Responsiveness	3.70	0.711	74.0	5
Assurance	4.20	0.661	84.0	1
Empathy	4.20	0.686	84.0	2
<b>Overall average</b>	<b>4.07</b>	<b>0.470</b>	<b>81.4</b>	

Table (4.5) presented the overall perception of patients about the quality of services in dental clinic. The results disclosed that the highest scores were equal in assurance and empathy, with a mean score of 4.20 and a mean percent of 84 percent for each which is consistent with the conclusion obtained by the researcher through the focus group, where one adult male patient said: " *One of the positive aspects that I have touched is the treatment of the staff, especially the doctors, who was classy and full of respect*" and other adult female Patient said: " *Among the most things that Impressed me as I said their interest in me as a patient and their treatment and concern for my special needs*" .Tangibles came next with mean score 4.19 and mean percent 83.8%, then reliability which had mean score 4.17 and mean percent 83.4%, and responsiveness received the lowest score with mean score 3.70 and mean percent 74% which appeared homogenous with the focus group interview as young female said: " *Waiting for a long time to enter the clinics was one of the most negative things I faced in addition to the routine of work and the presence of a small number of supervisors which make some kind of delay for the treatment*". The overall average score was 4.07 with mean percent 81.4 in the other hand the study conducted in Nigeria revealed that the highest score in perception was in assurance while the lowest score was in empathy which could be explained by cultural differences between the participants of our study and the participants of Nigerian study. This result indicated that the perception of patients about the quality of services in dental clinic was at high level (81.4%).

**Table (4.6): The relative importance of the 5 dimensions of quality to dental patients at University of Palestine**

	<b>Expectation (Mean±SD)</b>	<b>Perception (Mean±SD)</b>	<b>Quality gap measurement (Perception- Expectation)</b>	<b>Quality gap t (t-test)</b>	<b>P value</b>
Tangibles	3.726	4.199	0.473	10.491	0.000
Reliability	3.731	4.174	0.443	8.739	0.000
Responsiveness	3.702	3.702	-	-	-
Assurance	3.839	4.204	0.365	8.395	0.000
Empathy	3.782	4.207	0.425	8.565	0.000
Total score	3.753	4.072	0.319	13.299	0.000

\* Paired sample (t) test

According to the results, all the dimensions of quality have statistically significant quality gap: Tangible (t=10.491, P=0.000), reliability (t=8.739, P=0.000), assurance (t= 8.395, P=.0000) empathy (t= 8.565, P=0.000), and the total score (t= 13.299, P= 0.000), but responsiveness had no statistically significant quality gap.

Generally patient perception statistically exceeds the expectation (p=0.000) which demonstrates high quality of services offered at UPDCs according to the standard set by Servqual model, which showed that if the perception exceeded the expectation, this means that the quality of the services provided is high (Parasuraman et al., 1985). Which can also be considered also as an indicator for the satisfaction of patient when their perception exceeds their expectation. Among the service quality dimensions, responsiveness had the lowest expectation and perception, indicating that service providers did not pay enough attention to the timing of service delivery. According to the findings of the (Dewi et al. 2018) studying patient - provider communication and prompt delivery were very essential and had an impact on health care quality. This implies that the responsiveness dimension has received less attention, and that it is necessary to plan and focus more on this dimension because poor service quality has a synergistic effect and can lead to worse quality in other dimensions.

This result obtained by the researcher confirmed by the results of the focus group interview as adult female patient said: "*Frankly, I had a feeling of safety during my dealings with the staff, their manner of dealing was elegant, at first, I was afraid of treatment, meaning that I did not expect good treatment from them which means that the result exceeded my expectation*". And other young female said: "*It was a great deal, at first I was afraid because the students were still in the training phase, but after seeing the result, I felt very satisfied, and the treating doctor was skilled and in general the staff was great*". Which

actually reflects that what the patients actually found exceeded what they expected. Our study showed quality gaps disparate the study of Oketade et al that considered perception without evaluating patient expectation.

#### 4.1.2 Inferential results

##### Quality of services and socio-demographic characteristics of patients:

##### Differences in expectations, perception about quality of services in dental clinic associated with gender

**Table (4.7): Differences in expectations related to gender (n= 353)**

Domain	Gender	n	Mean	SD	t	P value
Tangibles	Male	153	3.701	0.780	-0.530	0.597
	Female	200	3.745	0.750		
Reliability	Male	153	3.788	0.758	1.185	0.237
	Female	200	3.688	0.809		
Responsiveness	Male	153	3.723	0.728	0.491	0.624
	Female	200	3.686	0.699		
Assurance	Male	153	3.788	0.821	-1.098	0.273
	Female	200	3.878	0.709		
Empathy	Male	153	3.766	0.772	-0.337	0.737
	Female	200	3.795	0.781		
Total	Male	153	3.752	0.584	-0.033	0.974
	Female	200	3.754	0.554		

\* Independent sample (t) test

Table (4.7) revealed that there were no statistically significant differences in tangible expectation between males and females ( $t = -0.530$ ,  $P = 0.597$ ). There were also statistically no significant differences in expectation about reliability ( $t = 1.185$ ,  $P = 0.237$ ), expectation about responsiveness ( $t = 0.491$ ,  $P = 0.624$ ), statistically no significant differences in expectation about assurance ( $t = -1.098$ ,  $P = 0.273$ ), statistically no significant differences in expectation about empathy ( $t = -0.337$ ,  $P = 0.737$ ), and statistically no significant differences in total score ( $t = -0.033$ ,  $P = 0.033$ ). Generally, this result indicated that male and female had the same expectation about the quality of services in dental clinic which is

consistent with the results obtained from the study in dental clinics at the University of Dammam in Saudi Arabia.

**Table (4.8): Differences in perception related to gender (n= 353)**

Domain	Gender	n	Mean	SD	t	P value
Tangibles	Male	153	4.163	0.662	-0.941	0.347
	Female	200	4.226	0.596		
Reliability	Male	153	4.193	0.693	0.472	0.637
	Female	200	4.160	0.648		
Responsiveness	Male	153	3.723	0.728	0.489	0.625
	Female	200	3.686	0.699		
Assurance	Male	153	4.202	0.731	-0.034	0.973
	Female	200	4.205	0.603		
Empathy	Male	153	4.261	0.693	1.286	0.199
	Female	200	4.166	0.680		
Total	Male	153	4.085	0.490	0.419	0.675
	Female	200	4.063	0.455		

Independent sample (t) test

There were no statistically significant differences in perception of tangibles ( $t = -0.941$ ,  $P = 0.347$ ), according to Table (4.8). There were also no statistically significant differences in perceptions of reliability ( $t = 0.472$ ,  $P = 0.637$ ), responsiveness ( $t = 0.489$ ,  $P = 0.625$ ), assurance ( $t = -0.034$ ,  $P = 0.973$ ), empathy ( $t = 1.286$ ,  $P = 0.199$ ), or total score ( $t = 0.419$ ,  $P = 0.199$ ). Generally, this finding demonstrated that there were no statistically significant differences between male and female patients' perceptions of the quality of dental clinic services. This outcome is similarly consistent with the findings of a study conducted in dental clinics at the University of Dammam in Saudi Arabia.

## Differences in expectations, perception about quality of services in dental clinic related to age

**Table (4.9): Differences in expectation associated with age (n= 353)**

Variable		Sum of Squares	df	Mean Square	F	P value
Tangibles	Between Groups	10.717	4	2.679	4.797	0.001 *
	Within Groups	194.367	348	0.559		
	Total	205.084	352			
Reliability	Between Groups	7.714	4	1.929	3.179	0.014 *
	Within Groups	211.121	348	0.607		
	Total	218.835	352			
Responsiveness	Between Groups	7.639	4	1.910	3.892	0.004 *
	Within Groups	170.754	348	0.491		
	Total	178.393	352			
Assurance	Between Groups	8.340	4	2.085	3.717	0.006 *
	Within Groups	195.230	348	0.561		
	Total	203.570	352			
Empathy	Between Groups	10.553	4	2.638	4.552	0.001 *
	Within Groups	201.685	348	0.580		
	Total	212.238	352			
Total	Between Groups	7.900	4	1.975	6.525	0.000 *
	Within Groups	105.331	348	0.303		
	Total	113.231	352			

One-way ANOVA \*Significant at 0.05

The table above illustrated differences in patient expectation about quality of services with age as follows:

- Tangibles: Expectations regarding tangibles (F= 4.797, P= 0.001), which showed statistically significant differences between patients' expectation regarding this domain with age.
- Reliability : (F= 3.179, P= 0.014), which means statistically significant differences between patients different age groups regarding expectation of this domain.
- Responsiveness:patients expectation regarding this domain and patients age groups showed statistically significant differences with (F= 3.892, P= 0.004).
- Assurance: (F= 3.717, P= 0.006),which means statistically significant differences between patients age and assurance domain.
- Empathy :age of patients had statistically significant differences with empathy domain, with (F= 4.552, P= 0.001).

**Generally**, this finding revealed that there were statistically significant differences in expectations about dental clinic quality of service based on patient age, which contradicts the study conducted at the College of Dentistry at the University of Toronto in Canada (Khan, 2019), that showed no statistically significant differences between different age group regarding their expectations of the quality of services in dental clinics which can be explained by the cultural differences as they had Approximately the same sample size and sampling technique .

To verify the direction of these differences, the researcher applied multiple comparison post hoc LSD test as presented in table (4.10).

**Table (4.10): Significance of differences in expectation between age groups (Post hoc LSD test)**

<b>Dependent Variable</b>	<b>(I) Age group</b>	<b>(J) Age group</b>	<b>Mean Difference (I-J)</b>	<b>P value</b>
Tangibles	20 and less	21-30	0.275	0.031 *
		31-40	0.213	0.120
		41-50	0.455	0.001 *
		51 and more	0.591	0.000 *
Reliability	20 and less	21-30	0.036	0.782
		31 - 40	0.203	0.155
		41-50	0.240	0.096
		51 and more	0.458	0.004 *
Responsiveness	20 and less	21-30	0.036	0.759
		31-40	0.030	0.811
		41-50	0.172	0.185
		51 and more	0.461	0.001 *
Assurance	20 and less	21-30	0.106	0.403
		31-40	0.133	0.331
		41-50	0.357	0.010 *
		51 and more	0.468	0.002 *
Empathy	20 and less	21-30	-0.051	0.688
		31-40	0.151	0.279
		41-50	0.124	0.377
		51 and more	0.495	0.002 *
Total	20 and less	21-30	0.077	0.405
		31-40	0.139	0.168
		41-50	0.263	0.010 *
		51 and more	0.493	0.000 *

Table (4.10) showed that young patients aged 20 years and less expressed significant higher expectation about tangibles compared to older patients. Also, patients aged 20 years and less expressed significant higher expectation about reliability compared to patients aged 51 years and more (P= 0.004) and responsiveness (P= 0.001), and empathy (P= 0.002). Also, patients aged 20 years and less expressed significant higher expectation about assurance compared to patients aged 41 – 50 years (P= 0.010) and patients aged 51 years and more (P= 0.002). **These results indicated that younger patients have higher expectation about the quality of services at dental clinic compared to older age patients.** This result is consistent with the results obtained in the study of( Braunsberger et al., 2019) reported that elderly, male patients, those with a lower educational level, have lower expectation with their healthcare system and service quality than others. Other studies revealed that as the aging population grows, dental clinics face new treatment concerns. Dental treatment satisfaction is recognized as a crucial aspect in determining the attitude and engagement of older patients. It is linked to a range of elements, including physical, emotional, social, and socioeconomic concerns, as well as treatment quality (Anang et al., 2020). Some researchers discovered no link between dental treatment pleasure and characteristics like social activity, self-image, or anxiety level. Patient satisfaction is assumed to be influenced by good doctor-patient interactions, or "the art of care," especially among elderly patients (Upadhyai et al., 2019) .

**Table (4.11): Differences in perception associated with age (n= 353)**

Variable		Sum of Squares	df	Mean Square	F	P value
Tangibles	Between Groups	2.631	4	0.658	1.693	0.151
	Within Groups	135.244	348	0.389		
	Total	137.875	352			
Reliability	Between Groups	1.044	4	0.261	0.583	0.675
	Within Groups	155.850	348	0.448		
	Total	156.894	352			
Responsiveness	Between Groups	7.639	4	1.910	3.892	0.004 *
	Within Groups	170.754	348	0.491		
	Total	178.393	352			
Assurance	Between Groups	1.816	4	0.454	1.038	0.387
	Within Groups	152.165	348	0.437		
	Total	153.981	352			
Empathy	Between Groups	3.661	4	0.915	1.961	0.100
	Within Groups	162.438	348	0.467		
	Total	166.099	352			
Total	Between Groups	1.377	4	0.344	1.566	0.183
	Within Groups	76.510	348	0.220		
	Total	77.887	352			

One-way ANOVA \*Significant at 0.05

There were no statistically significant differences in perception about tangibles ( $F= 1.693$ ,  $P= 0.151$ ), reliability ( $F= 0.583$ ,  $P= 0.675$ ), assurance ( $F= 1.038$ ,  $P= 0.387$ ), empathy ( $F= 1.961$ ,  $P= 0.100$ ), or the overall score ( $F= 1.566$ ,  $P= 0.183$ ), according to Table (4.11).

Overall, this finding revealed that there were no statistically significant differences in perceptions of dental clinic quality of service based on patient age. In the other hand, there were statistically significant differences in perceptions of responsiveness ( $F= 3.892$ ,  $P= 0.004$ ), and the researcher conducted a multiple comparison post hoc LSD test to assess the direction of these differences (see table) (4.12).

**Table (4.12): Significance of differences in perception between age groups (Post hoc LSD test)**

	(I) age group	(J) age group	Mean Difference (I-J)	P value
Responsiveness	51 and more	20 and less	-0.461	0.001 *
		21 - 30	-0.425	0.001 *
		31 - 40	-0.430	0.001 *
		41 - 50	-0.289	0.030 *

**Table (4.12) showed that patients aged 51 years and more expressed significant lower perception about responsiveness compared to younger age patients** which comes in line with the results obtained in the study of( Braunsberger et al., 2019) reported that elderly, male patients, have lower perception with their healthcare system and service quality than others. According to study, older people are generally expressed higher perception with their dental care. The success of geriatric treatment was strongly linked to the satisfaction of dental professionals (Djordjevic et al., 2019). Some research discovered that older patients were less satisfied, and they explained their findings by the fact that younger patients' oral health is often better than older patients', resulting in the latter having a better dental care experience (Dewi et al., 2019).

## Differences in expectations, perception about quality of services in dental clinic with regard to marital status

**Table (4.13): Differences in expectations with regard to marital status (n= 353)**

Variable		Sum of Squares	df	Mean Square	F	P value
Tangibles	Between Groups	2.210	2	1.105	1.906	0.150
	Within Groups	202.874	350	0.580		
	Total	205.084	352			
Reliability	Between Groups	4.612	2	2.306	3.768	0.024 *
	Within Groups	214.222	350	0.612		
	Total	218.835	352			
Responsiveness	Between Groups	2.073	2	1.036	2.057	0.129
	Within Groups	176.320	350	0.504		
	Total	178.393	352			
Assurance	Between Groups	8.023	2	4.012	7.180	0.001 *
	Within Groups	195.547	350	0.559		
	Total	203.570	352			
Empathy	Between Groups	3.953	2	1.977	3.321	0.037 *
	Within Groups	208.285	350	0.595		
	Total	212.238	352			
Total	Between Groups	3.263	2	1.631	5.192	0.006 *
	Within Groups	109.968	350	0.314		
	Total	113.231	352			

One-way ANOVA \*Significant at 0.05

There were no statistically significant differences in expectation about tangibles ( $F= 1.906$ ,  $P= 0.150$ ) or expectation about responsiveness ( $F= 2.057$ ,  $P= 0.129$ ) as shown in Table (4.13)

There were statistically significant differences in reliability expectations ( $F= 3.768$ ,  $P= 0.024$ ), assurance expectations ( $F= 7.180$ ,  $P= 0.001$ ), empathy expectations ( $F= 3.321$ ,  $P= 0.001$ ), and the total score ( $F= 5.192$ ,  $P= 0.006$ ). Overall, this finding revealed that there were statistically significant differences in patient expectations about dental clinic quality of service based on marital status.

The researcher conducted a multiple comparison post hoc LSD test, as shown in table (4.14), to establish the direction of these differences.

**Table (4.14): Significance of differences in expectation with regard to marital status (Post hoc LSD test)**

<b>Dependent Variable</b>	<b>(I) Marital status</b>	<b>(J) Marital status</b>	<b>Mean Difference (I-J)</b>	<b>P value</b>
Reliability	Single	Married	0.147	0.103
		Divorced / widow	0.378	0.008 *
Assurance	Single	Married	0.325	0.000 *
		Divorced / widow	0.240	0.078
Empathy	Single	Married	0.216	0.016 *
		Divorced / widow	0.242	0.085
Total	Single	Married	0.192	0.003 *
		Divorced / widow	0.232	0.023 *

Table (4.14) showed that single patients expressed significant higher expectations about reliability compared to divorced or widowed patients ( $P= 0.008$ ), higher expectation about assurance compared to married patients ( $P= 0.000$ ), higher expectation about empathy compared to married patients ( $P= 0.016$ ). **These results indicated that single patients expressed higher expectation about the quality of services in dental clinic compared to married and divorced or widowed patients.** Other studies agreed with these results as that conducted in Nigeria dental clinics (Taiwo Adebayo et al., 2017) , study conducted at Seattle in United states of America (Golletz et al., 2017).

**Table (4.15): Differences in perception with regard to marital status (n= 353)**

Variable		Sum of Squares	df	Mean Square	F	P value
Tangibles	Between Groups	0.952	2	0.476	1.216	0.298
	Within Groups	136.924	350	0.391		
	Total	137.875	352			
Reliability	Between Groups	2.488	2	1.244	2.819	0.061
	Within Groups	154.406	350	0.441		
	Total	156.894	352			
Responsiveness	Between Groups	2.073	2	1.036	2.057	0.129
	Within Groups	176.320	350	0.504		
	Total	178.393	352			
Assurance	Between Groups	0.463	2	0.232	0.528	0.590
	Within Groups	153.518	350	0.439		
	Total	153.981	352			
Empathy	Between Groups	0.871	2	0.436	0.923	0.398
	Within Groups	165.228	350	0.472		
	Total	166.099	352			
Total	Between Groups	0.165	2	0.083	0.373	0.689
	Within Groups	77.722	350	0.222		
	Total	77.887	352			

There were no statistically significant differences in perceptions of tangibles, according to Table (4.15), where (F= 1.216, P= 0.298), perception about reliability (F= 2.819, P= 0.061), perception about responsiveness (F= 2.057, P= 0.129), perception about assurance (F= 0.528, P= 0.590) perception about empathy (F= 0.923, P= 0.398), and the total score (F= 0.373, P= 0.689). Overall, there were no statistically significant differences, according to this result. in perception about quality of service in dental clinic related to marital status of patients which is consistent with the results obtained by the College of Dentistry at the University of Toronto in Canada (Khan, 2019).

## Differences in expectations, perception about quality of services in dental clinic with regard to level of education

**Table (4.16): Differences in expectations related to level of education (n= 353)**

Variable		Sum of Squares	df	Mean Square	F	P value
Tangibles	Between Groups	3.451	2	1.726	2.995	0.071
	Within Groups	201.633	350	0.576		
	Total	205.084	352			
Reliability	Between Groups	0.736	2	0.368	0.591	0.554
	Within Groups	218.098	350	0.623		
	Total	218.835	352			
Responsiveness	Between Groups	1.990	2	0.995	1.974	0.140
	Within Groups	176.402	350	0.504		
	Total	178.393	352			
Assurance	Between Groups	2.065	2	1.033	1.794	0.168
	Within Groups	201.505	350	0.576		
	Total	203.570	352			
Empathy	Between Groups	2.478	2	1.239	2.067	0.128
	Within Groups	209.760	350	0.599		
	Total	212.238	352			
Total	Between Groups	1.470	2	0.735	2.302	0.102
	Within Groups	111.761	350	0.319		
	Total	113.231	352			

Expectations regarding tangibles ( $F= 2.995$ ,  $P= 0.071$ ), reliability ( $F= 0.591$ ,  $P= 0.554$ ), responsiveness ( $F= 1.974$ ,  $P= 0.140$ ), assurance ( $F= 1.794$ ,  $P= 0.168$ ), empathy ( $F= 2.067$ ,  $P= 0.128$ ), and the overall score ( $F= 2.302$ ,  $P= 0.102$ ) indicated no statistically significant differences as shown in table (4.16) . **Overall**, this finding revealed that there were no statistically significant differences in patient expectations about dental clinic quality of service based on their level of education. While in other studies the educational level is more associated with patient satisfaction like the studies conducted in Jordan at private clinics dental clinics (Hashim, 2018) . which could be explained by the difference in sample size, sampling method and the tool used in the study as they used the Servperf questionnaire which consists of 22 items.

**Table (4.17): Differences in perception with regard to level of education (n= 353)**

Variable		Sum of Squares	df	Mean Square	F	P value
Tangibles	Between Groups	0.284	2	0.142	0.362	0.697
	Within Groups	137.591	350	0.393		
	Total	137.875	352			
Reliability	Between Groups	0.207	2	0.103	0.231	0.794
	Within Groups	156.687	350	0.448		
	Total	156.894	352			
Responsiveness	Between Groups	1.990	2	0.995	1.974	0.140
	Within Groups	176.402	350	0.504		
	Total	178.393	352			
Assurance	Between Groups	0.908	2	0.454	1.038	0.355
	Within Groups	153.073	350	0.437		
	Total	153.981	352			
Empathy	Between Groups	0.693	2	0.346	0.733	0.481
	Within Groups	165.406	350	0.473		
	Total	166.099	352			
Total	Between Groups	0.289	2	0.145	0.653	0.521
	Within Groups	77.598	350	0.222		
	Total	77.887	352			

There were no statistically significant differences in perception about tangibles ( $F= 0.362$ ,  $P= 0.697$ ), reliability ( $F= 0.231$ ,  $P= 0.794$ ), responsiveness ( $F= 1.974$ ,  $P= 0.140$ ), assurance ( $F= 1.038$ ,  $P= 0.355$ ), empathy ( $F= 0.733$ ,  $P= 0.481$ ), or the total score ( $F= 0.653$ ,  $P=0.521$ ) according to Table (4.17). Overall, this finding revealed that there were no statistically significant differences in perception about QS based on level of education of patients. In contrast to what a Saudi Arabian investigation discovered (Sami Alhabib, 2021), it could be explained by the fact that the study's tool was different.

**Differences in expectations, perception about quality of services in dental clinic related to place of residency**

**Table (4.18): Differences in expectations with regard to place of residency (n= 353)**

Variable		Sum of Squares	df	Mean Square	F	P value
Tangibles	Between Groups	1.274	4	0.319	0.544	0.704
	Within Groups	203.810	348	0.586		
	Total	205.084	352			
Reliability	Between Groups	0.386	4	0.097	0.154	0.961
	Within Groups	218.449	348	0.628		
	Total	218.835	352			
Responsiveness	Between Groups	0.967	4	0.242	0.474	0.755
	Within Groups	177.426	348	0.510		
	Total	178.393	352			
Assurance	Between Groups	2.424	4	0.606	1.048	0.382
	Within Groups	201.146	348	0.578		
	Total	203.570	352			
Empathy	Between Groups	0.995	4	0.249	0.410	0.801
	Within Groups	211.243	348	0.607		
	Total	212.238	352			
Total	Between Groups	0.080	4	0.020	0.062	0.993
	Within Groups	113.151	348	0.325		
	Total	113.231	352			

Expectations regarding tangibles (F= 0.544, P= 0.704), reliability (F= 0.154, P= 0.961) responsiveness (F= 0.474, P= 0.755), assurance (F= 1.048, P= 0.382), empathy (F= 0.410 , P= 0.801), and overall score (F= 0.062, P= 0.993) indicated no statistically significant differences as shown in table (4.18) Overall, this finding revealed that there were no statistically significant differences in patient expectations about dental clinic quality of service based on where they lived.

**Table (4.19): Differences in perception with regard to place of residency (n= 353)**

Variable		Sum of Squares	df	Mean Square	F	P value
Tangibles	Between Groups	3.844	4	0.961	2.495	0.043 *
	Within Groups	134.031	348	0.385		
	Total	137.875	352			
Reliability	Between Groups	2.449	4	0.612	1.380	0.240
	Within Groups	154.445	348	0.444		
	Total	156.894	352			
Responsiveness	Between Groups	0.967	4	0.242	0.474	0.755
	Within Groups	177.426	348	0.510		
	Total	178.393	352			
Assurance	Between Groups	0.510	4	0.128	0.289	0.885
	Within Groups	153.471	348	0.441		
	Total	153.981	352			
Empathy	Between Groups	3.039	4	0.760	1.621	0.168
	Within Groups	163.060	348	0.469		
	Total	166.099	352			
Total	Between Groups	0.525	4	0.131	0.591	0.670
	Within Groups	77.362	348	0.222		
	Total	77.887	352			

There were no statistically significant differences in perceptions of reliability (F= 1.380, P= 0.240), responsiveness (F= 0.474, P= 0.755), assurance (F= 0.289, P= 0.885), empathy (F= 1.621, P= 0.168), and total score (F= 0.591, P= 0.670), according to table (4.19).

Overall, this finding revealed that there were no statistically significant differences in patient perceptions of dental clinic quality of service based on where they lived. Furthermore, there were statistically significant differences in tangible perception (F= 2.495, P= 0.043), Note that most of the studies did not find a relationship between the place of residence of patients and their perception of the quality of services provided in dental clinics, but the distance between housing and the place of service was one of the negative factors that did not satisfy patients like that which studied patient satisfaction at dental outpatient clinics in Turkey .

The researcher conducted a multiple comparison post hoc LSD test, as shown in table (4.20), to establish the direction of these differences.

**Table (4.20): Significance of differences in perception with regard to place of residency (Post hoc LSD test)**

<b>Dependent Variable</b>	<b>(I) Place of residency</b>	<b>(J) place of residency</b>	<b>Mean Difference (I-J)</b>	<b>P value</b>
Tangibles	North governorate	Gaza	-0.178	0.101
		Middle	-0.335	0.002 *
		Khan Younis	-0.255	0.030 *
		Rafah	-0.186	0.112

Table (4.20) showed that patients from the north governorate expressed significant lower perception about tangibles compared to patients from the middle (P= 0.002) and patients from Khanyounis (P= 0.030), similar to the study conducted in United Arab Emirates that found differences between different place of residence related to patient's perception of the quality of services where it found that patients coming from cities are less satisfied than those coming from rural area of the non-residents coming to the UAE who participated in the study, the results of our study comes in line also with that of (Okullo et al. 2019) which showed that the key to satisfaction with dental services among both urban and rural adolescents was in the inter-personal interaction with the dentist when they tried to identify possible association between patient socio-demographic characteristics and quality dimensions in their study .While other studies did not find a difference with regard to the place of residence such as those conducted by (Taiwo Adebayo et al., 2017) , note that they used the same tool to measure the quality of services, but the sample size and method of selection were different.

## 4.2 Main qualitative findings

The results from focus group interviews with the patients attended UPDCs presented in this part :

### **Theme 1: Apperance of the physical facilities at University of Palestine dental clinicss**

From patients perspective the physical facilities were clean and its appearance was decent, the waiting areas were appropriate, and the appearance of the staff working inside the clinics was elegant, and all this exceeded their expectations before receiving the treatment service inside the clinics as one of the participant said " *My opinion in the dental clinic is that the facilities are very clean and organized, the equipment is modern, sterile and good, and the appearance of the staff was decent and better than what I actually expected*". Some of the participants justified the issue that what they found exceeded their expectations to the fact that it is always linked to the idea that the place that provides a free treatment service often does not care about such aspects related to the appearance of the place and the appearance of the staff as one adult male said " *The place was good and clean, the equipment was clean and sterile, the staff in general was great and my expectations were lower than what I actually found as I expected it to be less than that because it is a free treatment*". Focusing on such aspects is very important in the patients' first impression of the place of receiving the therapeutic service. It is also important in the psychological aspects, which are very important to support the therapeutic aspects.

### **Theme 2: Precision and accuracy of services delivered at UPDCs**

Most of the participants said that the service provided was accurate and precise and there was great interest in providing a treatment service free of complications by following the instructions, especially with the presence of the supervising doctors constantly, as one participant said " *I felt a real interest in dealing and solving problems from the staff as a whole and cooperation, whether from the therapist or the supervising staff who are always there, to provide a distinguished treatment service without complications, and I have a good impression of the university's dental clinics*". The participants believe that this is normal, as this health care is provided in an educational institution that takes care of the correct standards of treatment . Receiving an accurate and free treatment service is a very important factor in patient satisfaction and improving health care in any country.

Therefore, measuring these aspects continuously has a significant impact on the continuity of the quality of this care.

### **Theme 3: Timeliness of services at University of Palestine dental clinics**

Most of the interviewed participants agreed that there was a delay in terms of the exact dates that are given to the different sessions. And that there was delay in providing the treatment service due to the long waiting time, and some patients justified this by the fact that the place that provides a free treatment service is often crowded with patients as one participant said " *There was a change in the dates and there was nothing fixed, there was long waiting time also, but there was a response to any complaint from my side and there was a quick response to my requests, this is to be expected, as the place that provides free service is usually crowded with patients*". Improving this aspect by finding appropriate solutions to reduce the long waiting time and giving accurate appointments has a significant positive impact on patients' satisfaction and their commitment to appointments and even to the instructions given by the treating physician.

### **Theme 4: Experience, knowledge and politeness of the staff working at UPDCs**

The study participants felt comfortable and safe in their dealings with the dental clinic staff, as they found that the communication with the staff was excellent, and the staff was polite in dealing with their patients. Moreover, patients felt confident in the staff, as there was an answer and clarification of their inquiries in a simplified manner, suggesting the great level of knowledge that the staff had, this is clear as one of the participants said " *I was very comfortable and the therapist was skillful. He answered all my questions and there was an atmosphere of cooperation and achievement*". And other participant said " *There was a real sense of safety when dealing with the staff. As for the therapists, the supervisors were constantly on top of them, and this gave a feeling of safety, and their talk about the pre-clinical training phase was strong. I felt comfortable and reassured, and their style was very polite in their dealings with me as a patient*".

### **Theme 5: Care and individual attention paid to patients at UPDCs**

Most of the participants agreed that there were great interest and care from clinics staff to patients and understanding to their own needs , and that there was satisfaction from patients on this aspect as one participant said " *I feel completely satisfied with the staff's treatment of me in particular and patients in general and their understanding of my special needs and the constant question*". Note that this aspect has a significant impact on the quality of services, as patients' satisfaction is a great indicator for measuring the quality of services, as most studies were concerned with measuring patients' satisfaction with the quality of services in order to be able to assess the aspects that need improvement and the aspects that have won patients' satisfaction as the study conducted by (Awad Allah et al., 2017) in their study conducted for assessing patient satisfaction about services provided in dental clinics at AL Zagazig University in Egypt.

### **Theme 6: Advantages and disadvantages of services provided at UPDCs**

Focus group interviews with patients revealed several advantages regarding the quality of services provided in dental clinics at University of Palestine the most common were : The polite manner of the staff in dealing with patients, the feeling of safety when dealings with the staff, and the patients' trust in the knowledge of the staff and this result is consistent with the quantitative findings which revealed that assurance had the highest score in term of expectation and perception of patients (assurance talks about aspects related to the way the staff deals with patients and politeness in dealing with them, in addition to the staff's knowledge which result in confidence and trust of patients. On the other hand there is a need to find solutions regarding long waiting time , extended appointments as they were the most negative aspects that patients talked about regarding services in dental clinics at University of Palestine which is consistent with the quantitative findings as responsiveness had the lowest score in both patient expectation and perception . Note that considering patient's perspective on the positive and negative aspects has great impact and on the development and improvement of the quality of services in the dental clinics.

### **4.3 Discussion**

Access to patient satisfaction, which is one of the most crucial factors for measuring the organizational success and quality of the services offered, is one of the goals of dental care setting. Furthermore, examining the quality of dental care is a dimension of health promotion in dental services. The purpose of this study was to apply the SERVQUAL approach to appraise the quality of service at UPDCs from the perspective of patients.

Quantitative/qualitative mixed method study used to assess the level of quality of services provided in dental clinics at University of Palestine from patients perspective. Discussion of the findings and comparison with other studies will be presented below.

#### **4.3.1 Socio-demographic characteristics**

The impact of age and gender on overall patient perspective about service quality level varies. Some studies demonstrate that the older the patients are, the more satisfied they are (Braunsberger et al., 2019), whereas others deny the relationship between age and satisfaction about service quality. Some studies argue that men have higher perception than women, whereas others claim the opposite (Dewi et al., 2019). The less educated place a higher value on care than the learned. Higher-educated people appear to place a higher importance on professional engagement, and they perceive the dentist as a conversation partner on level with them. People with a tertiary education were more dissatisfied with their dental health (Manulik et al., 2018). Women in the middle and lower socioeconomic groups demanded of quality care more than men in the same groupings, whereas men in the top socioeconomic groups demanded less (Hall & Dorman, 2020).

The participants who were female in this study were fifty-six and seven (56.7%) with mean age of  $34.76 \pm 13.5$  years. This larger percentage of female responses is consistent with other studies that suggest women are more likely than males to seek dental care, like as one performed at the University of Ajman's dentistry facilities. (63% female) United Arab Emirates and Al Zagazig University dental clinics in Egypt (82,8%). Among the respondents (68.8%) had university level of education, which is consistent with the result of the study conducted in dental clinics at the University of Ajman in United Arab Emirates (60.7%) probably because the study conducted inside the university clinics.

### **4.3.2 Quality of services in dental clinics at University of Palestine**

In Arab countries, dental education is fraught with obstacles. Despite the fact that health education finance is a global issue, dentistry schools in Arab countries rely solely on government support, which varies considerably between countries and even within the same country, causing serious problems in these difficult times. This makes achieving strategic goals challenging in the face of increased demand for more students and government-funded schools that offer discounted or even free education to nationals (Hashim, 2018).

In the present study ,the highest mean of patients' expectations was related to assurance, which are consistent with the results of (Al-Doghaither, 2019) study and inconsistent with that conducted at a Specialized Dental Clinic affiliated to the Armed Forces of Islamic Republic of Iran in Tehran which indicated that physical appearance was the most important factor of the service quality. On the other hand, in assurance, the item of ““confidence and feel safe during communication with this dental clinics staff”” had the greatest negative gap.

Therefore, to increase patients’ satisfaction and improve service quality, the studied clinic managers should try to inform patients about the employees’ knowledge and capabilities and thereby, increase the patients’ trust in employees and physicians. Moreover, respecting the patients’ privacy, exhibiting friendly and respectful behavior toward them, and explaining medical conditions and diseases to the patients can increase assurance and their satisfaction and finally, improve the quality of services provided.

The lowest mean of patients’ expectations was related to responsiveness, which are consistent with those of (Al-Doghaither, 2019) study and other study conducted at a Specialized Dental Clinic affiliated to the Armed Forces of Islamic Republic of Iran in Tehran (Zarei et al., 2017) but differ from the study conducted in Nigeria (Taiwo Adebayo et al., 2017), where reliability had the lowest mean of patients’ expectations ,it could be that Palestinian patients were more focused on compassionate and emotional aspect than Nigerian people . The gap analysis of responsiveness items showed that the greatest gaps was related to " Dental clinics staff should tell patients exactly when services will be performed. " According to the importance of responsiveness in the increase of patients’ satisfaction, reducing their waiting time for receiving services, training personnel on

producing timely response to the patients' needs, and strengthening the sense of employees' responsiveness to the patients' rights should be considered. According to the results of the current study, the highest mean of patients' perceptions was in empathy while lowest mean of patients' perceptions was related to responsiveness, which are similar to the results of the (Peres et al., 2019) and (Manulik et al., 2018) studies. In the other hand the study conducted in Nigeria revealed that the highest score in perception was in assurance while the lowest score was in empathy which could be explained by cultural differences between the participants of our study and the participants of Nigerian study.

The highest gap, according to the findings of this study, was related to tangibles while the lowest gap related to assurance. Generally patient perception statistically exceeds the expectation ( $p=0.000$ ) indicating high level of services quality provided at UPDCs according to the standards set by the servqual model, which showed that if the perception exceeded the expectation, this means that the quality of the services provided is high and therefore this is considered also an indicator for the satisfaction of patient at UPDCs services. It could be explained by the fact that treatment is free, as most of the study participants mentioned this reason among the reasons that prompted them to be treated in dental clinics at the University of Palestine during FG also may be because most of the places that provide dental treatment at a symbolic price in the Gaza Strip are charitable societies where less quality founded compared to university clinics.

Based on the results of the present study, responsiveness had the lowest expectation and perception among service quality dimensions indicating that service providers had not paid enough attention to the patients' opinions and views. The results of (Dewi *et al.*, 2019) study showed that the patient - provider interaction and prompt services were very important and had effects on the health-care quality. This indicates that responsiveness dimension has been paid less attention and it is required to plan and focus more on this dimension because the poor quality of a service quality dimension has a synergistic effect and can result in the reduced quality in other dimensions.

### **4.3.3 Association between the patient's socio-demographic characteristics and quality dimensions**

Several studies seek to study probable links between patients age and education with perceived quality of service in healthcare. (Braunsberger et al., 2019) study showed that older male patients with a lower level of education are more satisfied with their healthcare and service quality than others. The impact of patients' socio-demographic variables on assessing service quality in general dental treatment is still uncertain. Studies like this one in Al Zagazig University dental clinics found a substantial link between age and patient perception of service quality (Awad Allah et al., 2017). According to a study in Wroclaw university dental clinics in Poland and a research aimed at analyzing the quality of dental care in Iran, patients' social and demographic characteristics have no effect on the quality of health-related services they receive (Al-Azzam et al., 2017).

The results about the associations between studied patients' demographic characteristics and the quality dimensions revealed that male and female had the same expectation and perception about the quality of services in dental clinic at UP which is consistent with the results obtained from the study in dental clinics at the University of Dammam in Saudi Arabia, study of (Huang & Li, 2018), (Zarei et al., 2017) , (Tuominen & Tuominen, 2019) and (Awad & Feine, 2018). Which could be due to the implementation of the study in an educational setting and people expect educational institutions to give great attention to quality standards, which was evident when the researcher asked patients why they chose dental clinics at UP for treatment, and this impression is generated by both males and females.

Furthermore, our findings revealed that there were no statistically significant differences in perceptions of dental clinic service quality based on age of patients except in responsiveness were patients aged 51 years and more expressed significant lower perception about responsiveness compared to younger age patients probably because this age group come mainly to prosthodontics department, which needs long, multiple and tiring sessions and older people having more exposure to the health care system (Khan, 2019). Which comes in line with (Tuominen & Tuominen, 2019) and (Awad & Feine, 2018).

However our findings demonstrated that there were statistically significant differences in expectations about dental clinic quality of service based on patient age which is congruent with previous research like ( Ariffin, 2017), in the other hand a study conducted at the College of Dentistry at the University of Toronto in Canada (Khan, 2019) contradicts our

results , that showed no statistically significant differences between different age group regarding their expectations of the quality of services in dental clinics. This contradiction could be explained by the cultural differences as they had Approximately the same sample size and sampling technique.

The present study indicated that there were statistically significant differences in expectation about quality of service in dental clinic at UP related to marital status of patients. These results indicated that single patients expressed higher expectation about the quality of services in dental clinic compared to married, divorced or widowed patients, it could be explained by the fact that the treatment service is free, and the long sessions and repeated sessions, which were among the most important negative points that the participants in the F G talked about, do not constitute a great concern for single people like others. Other studies agreed with these results as that conducted in Nigeria dental clinics (Taiwo Adebayo et al., 2017) , study conducted at Seattle in United states of America (Golletz et al., 2017) ,findings of a study occurred at King Khaled University (Al-Doghaither, 2019) and (Hall & Dornan, 2020) study .

Our findings, on the other hand, revealed that there were no statistically significant differences in perceptions of dental clinic quality of service associated to marital status of patients which is consistent with the results obtained by College of Dentistry at the University of Toronto in Canada (Khan, 2019) and study conducted in Saudi Arabia (Baldwin & Sohal, 2018).

The study revealed that there was no significant association between level of education, place of residency of patients, and quality dimensions in terms of expectation or perception, with the exception of perception concerning tangibles. The results of the study conducted in United Arab Emirates ,study of patients' perspective with Dental Care Facilities at the University of the West Indies (School of Dentistry), Patient satisfaction at dental outpatient clinics in Turkey, as well as patient satisfaction in dental outpatients at the Lagos University Teaching Hospital studies all are similar to our results. However, other studies, such as one done in Jordan at private dental clinics, contradict the findings of the current study (Hashim, 2018) and the study conducted in Worclaw university, which could be explained by the difference in sample size ,sampling method and the tool used in the study as they used the Servperf questionnaire which consists of 22 items.

## **Chapter 5**

### **Conclusion and Recommendations**

#### **5.1 Conclusion**

Service quality is an issue that should be investigated from the perspective of all stakeholders, managers and policymakers might benefit from addressing patients' perspectives and gauging their perceptions and expectations. The findings revealed that the quality of service given at the dental clinic under investigation was high as patients perception exceeded their expectation, however the clinic's managers should take initiatives to improve the clinic's quality of services especially in responsiveness which had the least score in expectation and perception, through planning properly, prioritizing services, and reviewing processes with regard to the patients' expectations.

The findings of the associations between studied patients' demographic features and quality dimensions revealed that male and female patients in the dental clinic at UP had the same expectations and perceptions regarding the quality of services.

Our findings revealed that there were no statistically significant differences in perceptions of dental clinic service quality based on patient age, with the exception of responsiveness, where patients 51 years and older expressed significantly lower responsiveness perceptions than patients younger than 51 years while the results revealed that patient age had a statistically significant impact on expectations about dental clinic quality of service as younger patient expressed higher expectation compared to older patients.

According to the findings of this study, there were statistically significant differences in patient expectations about the quality of service in the UP dental clinic based on marital status. These findings revealed that single patients had higher expectations for the quality of dental services than married, divorced, or widowed patients. In contrast, our results illustrated that there were no statistically significant changes in patient views of dental clinic quality of service based on marital status.

With the exception of perceptions about tangibles, the study found no significant association between level of education, patient residency, and quality dimensions in terms of expectation or perception.

## **5.2 Recommendations**

The issues raised by this study may be useful in improving the quality of care provided, hence the researcher recommends the following:

### **For decision makers and clinics staff**

1. In assurance, the item of “confidence and feel safe during communication with this dental clinics staff” had the least score. Therefore, to increase patients’ satisfaction and improve service quality, the clinic managers should try to increase the patients’ trust in employees and physicians. Patients' trust in employees and physicians should be increased if clinic managers endeavor to tell them about their staff' expertise and capabilities. Furthermore, respecting patients' privacy, behaving in a friendly and respectful manner toward them, and explaining medical conditions and diseases to them can boost patient assurance and satisfaction, as well as the quality of services delivered.
2. The greatest defect in responsiveness was found to be related to " dental clinics staff should tell patients exactly when services will be performed.," according to the analysis of responsiveness items. According to the relevance of responsiveness in improving patient satisfaction ,decreasing patient wait times for services should be considered.
3. The department should establish a quality control unit that, among other things, should adopt a quality assurance policy and conduct regular patient satisfaction measurements in order to improve the quality of services provided on a regular basis.
4. It is recommended that care providers continue their education in patient-centered care.

## **5.3 Suggestions for further investigations**

1. To conduct a study to assess the QS delivered in dental clinics in GS in both governmental and UNRWA health care centres from patients viewpoints.
2. To carry out a comparative study to explore differences between QS in private and public dental clinics in GS.

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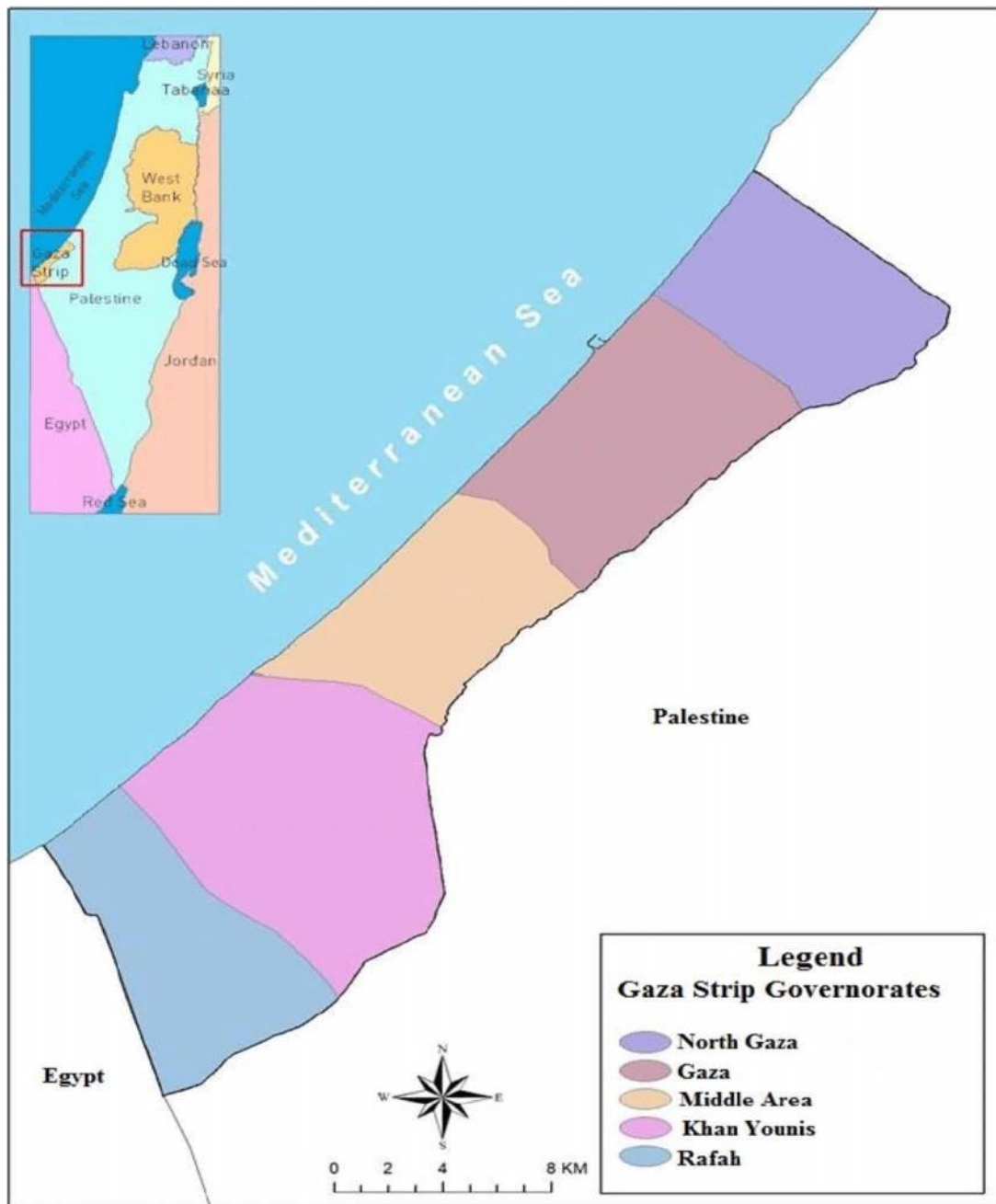
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## Annexes

### Annex (1): Gaza Governorates distribution map



(Abuzerr, S. 2019)

## Annex (2): Sample size calculation using EPI-INFO


**Population survey or descriptive study using random (not cluster) sampling**

Confidence Level	Sample Size
80%	158
90%	254
95%	352
97%	424
99%	574
99.9%	863
99.99%	1116

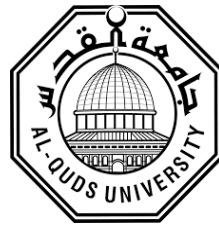
**Population size:**

**Expected frequency:**

**Confidence limits:**



### **Annex (3): Self-administered questionnaire – English version**



**Al-Quds University**  
**School Of Public Health**

#### **Quality of Services Provided in Dental Clinics at University of Palestine: Patients Perception and Expectation**

Dear participant;/ Greetings, appreciation and respect,

I am Hammouda Salah Shublaq., a master's student at Al-Quds University, Faculty of Graduate Studies - Public Health Program (epidemiology). I am conducting this research as a main requirement for obtaining a master's degree, this study aims to assess the quality of services provided in dental clinics at the University of Palestine (patient expectation and perception). This study will contribute to assess the quality of services provided in the dental clinics at the University of Palestine and thus help in the development of these services in the future. You have been selected to participate in this research due to your compliance with the terms of the scientific research. Conducting this research does not require doing any laboratory tests or taking any kind of medication. This participation is optional and I appreciate your participation in this study, so you can refuse to participate, stop interview or assessment, skip questions or withdraw the questionnaire anytime you wish. Your answers will be kept completely confidential and no individual respondent will be identified in any report based on the study. The questionnaire and assessment may take 15 minutes from your time. Please answer all questions as much as possible and do not hesitate to ask for any clarification regarding this questionnaire.

Best regards

Hammouda Shublaq/0597196322

# Quality of Services Provided in Dental Clinics at University of Palestine: Patients Perception and Expectation

## Interviewed Questionnaire

The questions below talk about the quality of services provided in the dental clinics at the University of Palestine (patient expectation and knowledge). Please read each question carefully and answer it. Your answer will help us identify the quality of the services provided and the deficiencies in these services, which will contribute to the improvement of services in the future.

### Section One: Personal Data

**Serial number** /.....

**Sex** / Male  Female

**Age** / .....

**Marital status** / Single  Married  Other

**Education level** / Illiterate  Primary  Preparatory   
Secondary  Diploma  bachelor and more

**Residency** / North Gaza  Gaza  Middle zone  Khan Younis  
Rafah

## Second section: Quality of services

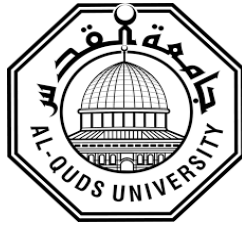
### Instructions

Please put a tick ✓ in front of the option you see fit

<b>Expectation scale</b>						
<b>No.</b>	<b>Item</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>
<b>Tangibles</b>						
1	It's expected that these dental clinics would have up-to-date equipment					
2	It's expected that the dental clinic's physical facilities would be visually appealing.					
3	It's expected that the dental clinics staff would be neat appearing.					
<b>Reliability</b>						
4	It's expected that these dental clinics would provide their services at the time they promise to do so.					
5	It's expected that when patient has a problem, dental clinics staff would show a sincere interest in solving it					
6	It's expected that dentists would insist on complications free treatment.					
<b>Responsiveness</b>						
7	It is expected that the dental clinics staff should tell patients exactly when services will be performed.					
8	It is expected for patients to get prompt service from the dental clinics staff.					
9	It is expected that the clinics staff should always be willing to help patients.					
10	The dental clinics staff will never be too busy to respond to patients' requests and complaints.					
<b>Assurance</b>						
11	Patients should feel safe during communication with this dental clinics staff.					
12	The dental clinics staff should have the knowledge to answer patients' questions.					
13	It is expected that the staff of clinics should be consistently courteous with patients.					
<b>Empathy</b>						
14	The dental clinic staff should be expected to give patients personal attention.					
15	It is realistic to expect clinics staff to have their patient's best interests at heart.					
16	It is expected that staff of dental clinics should understand the specific needs of their patients.					

Perception scale						
No.	Item	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<b>Tangibles</b>						
1	These dental clinics have up-to-date equipment					
2	The dental clinic's physical facilities are visually appealing					
3	These dental clinics have neat looking staff					
<b>Reliability</b>						
4	These dental clinics provide its services at the time it promises to do so.					
5	When patient have a problem, dental clinics staff shows sincere interest in solving it.					
6	The dentists insist on complications free treatment.					
<b>Responsiveness</b>						
7	The dental clinics staff tell patients exactly when services will be performed.					
8	Patients receive prompt service from the dental clinics staff.					
9	The dental clinics staff are always willing to help patients.					
10	The dental clinics staff are never too busy to respond to patients' requests and complaints.					
<b>Assurance</b>						
11	Patients feel safe during their communication with dental clinics staff.					
12	The dental clinic staff have the knowledge to answer patients' questions.					
13	The staff of dental clinics deals consistently courteous with patients.					
<b>Empathy</b>						
14	The dental clinics staff give patients personal attention.					
15	The dental clinics staff have patients' best interests at heart					
16	Staff of dental clinics understand the specific needs of their patients.					

#### Annex (4): Questionnaire (Arabic version)



#### استبانة

عزيزي المشارك

تحية تقدير واحترام وبعد،

أنا الباحث حمودة صلاح شبلاق طالب ماجستير بجامعة القدس كلية الدراسات العليا- برنامج الصحة العامة تخصص علم أوبئة. أقوم بإجراء هذا البحث كمتطلب رئيسي من متطلبات الحصول على شهادة الماجستير، حيث أن هذه الدراسة تهدف إلى التعرف على جودة الخدمات المقدمة في عيادات طب الأسنان بجامعة فلسطين (توقع المريض ومعرفة).

هذه الدراسة ستساهم في معرفة جودة الخدمات المقدمة في عيادات طب الأسنان بجامعة فلسطين وبالتالي تساعد في تطوير هذه الخدمات مستقبلا. لقد تم اختيارك للمشاركة في هذا البحث لمطابقتك لشروط البحث العلمي. إن إجراء هذا البحث لا يتطلب عمل أي تحاليل مخبرية أو تناول أي نوع من الأدوية. هذه المشاركة اختيارية ونحن نقدر مشاركتك في هذه الدراسة، لذلك يمكنك رفض المشاركة أو إيقاف المقابلة أو التقييم أو تخطي الأسئلة أو الانسحاب من الاستبيان في أي وقت تريده. سيتم الاحتفاظ بإجاباتك في سرية تامة ولن يتم تحديد أي فرد في أي تقرير يستند إلى الدراسة. قد يستغرق الاستبيان والتقييم 15 دقيقة من وقتك. الرجاء الإجابة على جميع الأسئلة قدر الإمكان ولا تتردد في طلب أي توضيح بخصوص هذا الاستبيان.

مع جزيل الشكر والتقدير لسيادتكم

حمودة صلاح شبلاق / 0597196322

# Quality of Services Provided in Dental Clinics at University of Palestine: Patients Perception and Expectation

## Self-administered questionnaire

الأسئلة الموجودة أدناه تتحدث عن جودة الخدمات المقدمة في عيادات طب الأسنان بجامعة فلسطين (توقع المريض ومعرفة). نرجو قراءة كل سؤال بعناية والإجابة عليه. إجابتك ستساعدنا في التعرف على جودة الخدمات المقدمة وجوانب النقص في هذه الخدمات مما سيساهم في تحسين الخدمات مستقبلاً.

### القسم الأول: البيانات الشخصية

❖ الرقم التسلسلي: .....

❖ الجنس: 1- ذكر  2- أنثى

❖ العمر: .....

❖ الحالة الاجتماعية: 1- أعزب/عزباء  2- متزوج/متزوجة  3- غير ذلك

❖ مستوى التعليم: 1- لا يجيد القراءة والكتابة  2- ابتدائي  3- إعدادي  4- ثانوي  5- دبلوم  6- بكالوريوس فأعلى

❖ مكان السكن: 1- شمال قطاع غزة  2- محافظة غزة  3- المحافظات الوسطى  4- خانينوس  5- رفح

القسم الثاني: جودة الخدمات

تعليمات/ برجاء وضع علامة (✓) أمام الخيار الذي ترونه مناسباً

مقياس التوقع					
أوافق بشدة	أوافق	لا أعرف	لا أوافق	لا أوافق بشدة	الأشياء الملموسة
					1 من المتوقع أن تحتوي عيادات الأسنان على معدات وتجهيزات حديثة
					2 من المتوقع أن تكون مرافق عيادات الأسنان ملفتة للنظر وجذابة
					3 من المتوقع أن يظهر طاقم عيادات الأسنان بمظهر أنيق
الموثوقية					
					4 من المتوقع أن تقدم عيادات الأسنان خدماتها في الوقت الذي تعد المرضى فيه بذلك
					5 من المتوقع أن يظهر طاقم عيادات الأسنان اهتمام حقيقي بحل المشاكل التي قد تواجه المريض
					6 من المتوقع أن يصر أطباء الأسنان على تقديم العلاج الخالي من المضاعفات
الاستجابة					
					7 من المتوقع أن يقوم طاقم عيادات الأسنان بإخبار المرضى بالموعد الدقيق لتقديم الخدمات لهم
					8 من المتوقع أن يتلقى المرضى خدمة سريعة من طاقم عيادات الأسنان
					9 من المتوقع أن يكون طاقم عيادات الأسنان على استعداد دائم لمساعدة المرضى
					10 لن ينشغل طاقم عيادات الأسنان عن الرد على طلبات وشكاوى المرضى
الثقة والضمان					
					11 يجب أن يشعر المرضى بالأمان خلال تعاملهم مع طاقم عيادات الأسنان
					12 يجب أن يكون لدى طاقم عيادات الأسنان المعرفة الكافية للإجابة على أسئلة المرضى

					13	من المتوقع أن يكون طاقم عيادات الأسنان مهذبًا في تعامله مع المرضى باستمرار
<b>التعاطف</b>						
					14	يُتوقع من طاقم عيادات الأسنان إعطاء المرضى اهتمامًا شخصيًا
					15	من المتوقع أن يضع طاقم عيادات الأسنان الاهتمام بمصالح المريض في مركز اهتماماته
					16	من المتوقع أن يفهم طاقم عيادة الأسنان الاحتياجات الخاصة لمرضاهم
<b>مقياس المعرفة والإدراك</b>						
						<b>الأشياء</b>
						<b>الملموسة</b>
						لا أوافق بشدة
						لا أوافق
						لا أعرف
						أوافق
						أوافق بشدة
					1	تحتوي عيادات الأسنان على معدات وتجهيزات حديثة
					2	مرافق عيادات الأسنان ملفتة للنظر وجذابة
					3	طاقم عيادات الأسنان أنيق المظهر
<b>الموثوقية</b>						
					4	تقدم عيادات الأسنان خدماتها في الوقت الصحيح الذي وعدت فيه المرضى بذلك
					5	عندما يعاني المريض من مشكلة، طاقم عيادات الأسنان يظهر الاهتمام الحقيقي بحلها
					6	يصر أطباء الأسنان على تقديم العلاج الخالي من المضاعفات
<b>الاستجابة</b>						
					7	يخبر طاقم عيادات الأسنان المرضى بالموعد الدقيق لتقديم الخدمات لهم
					8	يتلقى المرضى خدمة سريعة من طاقم عيادات الأسنان
					9	طاقم عيادات الأسنان على استعداد دائم لمساعدة المرضى
					10	طاقم عيادات الأسنان لا ينشغل عن الرد على طلبات وشكاوى المرضى
<b>الثقة والضمان</b>						
					11	يشعر المرضى بالأمان في تعاملهم مع طاقم عيادات الأسنان

					12	يمتلك طاقم عيادات الأسنان المعرفة الكافية للإجابة على أسئلة المرضى
					13	يتعامل طاقم عيادات الأسنان مع المرضى بشكل مهذب باستمرار
<b>التعاطف</b>						
					14	يظهر طاقم عيادات الأسنان اهتمامًا شخصيًا بالمرضى
					15	يضع طاقم عيادات الأسنان الاهتمام بمصالح المرضى في مركز اهتماماته
					16	يتفهم طاقم عيادات الأسنان الاحتياجات الخاصة لمرضاهم

## Annex (5): Semi- structured focus group open ended questions (Asked to patients)

\* حدثني عن رأيك لما رأيت داخل عيادات الأسنان من حيث (المرافق – حداثة المعدات- والمظهر العام للطاقم بداخلها) ومدى تطابق مع رأيتهم مع توقعاتك؟

\* ما مدى توافق توقعاتك مع ما وجدته فعليا داخل عيادات الأسنان فيما يتعلق بجوانب مثل (تقديم الخدمات في الموعد المحدد- الاهتمام الحقيقي بحل أي إشكالية قد تواجهك – الأصرار على تقديم خدمة علاجية خالية من المضاعفات)

\* كيف تصف آلية العمل داخل عيادات الأسنان من حيث تحديد مواعيد دقيقة للعمل -عدم التأخر سواء في تقديم الخدمة العلاجية او في الرد على أي شكاوى او تساؤل؟

\* من خلال تجربتك حدثني عن مدى شعورك بالأمان اثناء تعاملك مع طاقم العيادات والانطباع الذي تكون لديك عن أسلوب الطاقم في التعامل مع المرضى؟

\* ما مدى رضاك عن اهتمام طاقم عيادات الأسنان بالمرضى وبالاحتياجات الخاصة لهم؟

\* ماهي اهم الجوانب التي نالت اعجابك عند تلقى العلاج داخل عيادات طب الاسنان بجامعة فلسطين؟

\* ماهي الجوانب التي برأيك تحتاج الى تحسين مستقبلا داخل عيادات طب الاسنان بجامعة فلسطين؟

\* لماذا اخترت العلاج بعيادات طب الاسنان بجامعة فلسطين؟

**Annex (6): Focus group interviews transcripts**

<b>First interview</b>								
<b>Eighth Question Reasons</b>	<b>Seventh Question Disadvantages</b>	<b>Sixth Question Advantages</b>	<b>Fifth Question Empathy</b>	<b>Forth Question Assurance</b>	<b>Third Question Responsiveness</b>	<b>Second Question Reliability</b>	<b>First Question Tangibles</b>	
I attended the dental clinics at the University of Palestine because a friend of mine had come here before and advised me to get treatment here because she saw the wonderful result.	The frequent malfunctions in the dental chair were one of the most negative things that I have seen, and I believe that periodic maintenance is necessary for these matters	One of the most positive things that I found was the treatment to the extent that I came apprehensive about the anesthetic, and soon this fear faded, and even the result itself impressed me and the accuracy of the work	There was great and clear interest, both from the treating dentist or from the supervisor	As for the treatment, the staff was friendly and I used to talk what I wanted and asked the doctor and he explained to me without taking my questions lightly. I got the impression that they are like a beehive	Indeed, there was a change in the dates and there was nothing fixed, but there was a response to any complaint from my side and there was a quick response to my requests	My expectation was high, but what I found was less than my expectation. There was some delay in providing services. You had to wait longer than your appointment because of a previous student in clinics. There was great expectation, but even with the delay, there was interest from the students and the supervising doctors. As for the treatment and the result, it was more than expected frankly	In terms of appearance, comfortable and spacious areas. At first glance, the chair is good in terms of modernity, the equipment is very good, and the staff wears a robe, and there is no error	Participant 1

<p>The reason that prompted me to get treatment here is frankly that the treatment here is free and the cost of treatment in private clinics is very high, so I preferred treatment here</p>	<p>From my point of view, the problem of the x-ray machine and the long queue, in addition to some technical problems with the dental chair, was one of the most negative things I faced</p>	<p>One of the things that impressed me the most was the great commitment to appointments, the detailed explanation of the problem and the proposed treatment, and the understanding and acceptance of my questions and complaints.</p>	<p>The attention was great from all the crew members, even the security staff present at the place</p>	<p>I had a bad external experience with a dentist, so my expectation when I came was that they are all the same, but after the treatment here this impression changed and I had a good impression of their dealings, and I felt comfortable and safe, and my impression of their dealings was positive</p>	<p>There was no defect in the appointments at all, and in terms of complaints, I remember that I had a complaint and spoke with the doctor and he answered me with what to do</p>	<p>In terms of appointments, the appointments were accurate, for example, my appointment was 8 as the first patient, and there was no delay from the treating doctor</p>	<p>Facilities, equipment, and everything was fine, and frankly, I did not expect this before I came</p>	<p>Participant2</p>
<p>I was acquainted with the attending physician in advance, as she is related to me and I trust her very much</p>	<p>Waiting for a long time to enter the clinics was one of the most negative things I faced in addition to the routine of work and the presence of a small number of supervisors</p>	<p>The presence of barriers between clinics was one of the things that I liked the most, as this suggests that the degree of privacy was great and there is great respect for complaints from the patient and dealing with them seriously</p>	<p>I remember that I wanted an early appointment due to my special circumstances and there was acceptance of my desire</p>	<p>I was feeling relaxed even before the treatment started and I felt that he had a great interest in me and was asking me to express my feelings frankly</p>	<p>The treating doctor was punctual and did not have any complications, for example, during the treatment. In the event of any pain, the doctor explained to me the cause of this pain. I remember that the use of some tools was annoying to me and when I complained about it he was positive about my complaint</p>	<p>Appointments were accurate and appropriate. The treating doctor faced a problem, but he quickly resolved it, and I did not have complications, for example, or. I felt that the medical staff who provided treatment to me insisted on treating me as it should, even if he encountered any difficulty. He was seeking solutions and quickly solving any problem</p>	<p>The facilities were good and there is a separation between the chairs from each other meaning that there is privacy for the patient and the general appearance shows that they are polite people who do not look like trainees and the equipment was sterile - modern tools and the treating doctor is confident in themselves</p>	<p>Participant 3</p>

<p>The cost of nerve treatment is high in private clinics, while treatment in dental clinics at the University of Palestine is free, so I chose the treatment here</p>	<p>The treating doctor was waiting for a long time for the supervisor to come and verify the accuracy of the treatment, and the point of the length of the treatment session itself was one of the most negative things from my point of view</p>	<p>Commitment to sterilization and hygiene was one of the most positive things I felt, in addition to the accuracy of work and the high professionalism that I saw inside the clinics</p>	<p>There was a response to my suggestions in the event that I had special needs, for example, once to bring me drinking water, and he always answered my calls when I wanted to inquire about anything</p>	<p>It was a great deal, but I was afraid because the students were still in the training phase, but after seeing the result, I felt very satisfied, and the treating doctor was skilled and in general the staff was great</p>	<p>I had a complaint about things being placed in the mouth, but the therapist was trying hard to ease the matter and sometimes he would call to check on the treatment after</p>	<p>On the one hand, there was a lot of interest from the crew. The attending physician was trying his best to get the best result. I see that the doctor was skilled and the staff was excellent. There were no complications with us</p>	<p>The facilities are good and the clinics are clean and sterile, but the problem was sometimes the water and air stopped, but the faults were fixed, and the doctors were elegant, wearing their usual clothes, and their appearance was always clean, and the tools were sterile</p>	<p>Participant4</p>
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<p>I chose the treatment in the dental clinics at the University of Palestine, as there is a good reputation for treatment here and for follow-up as well</p>	<p>The routine of work, and that the supervisor must see each step before moving on to the next step, was one of the most negative things, as this leads to an increase in the time of the session</p>	<p>The wonderful result I got and the accurate treatment was one of the most positive things I have seen and impressed me</p>	<p>Everything was fine and I felt that there was a great understanding of all my needs even sometimes without even asking for them</p>	<p>I had the feeling that they were helping each other get things done, so much so that once during an x-ray when he was having trouble he would call out to his colleague and I was glad to see the cooperation at work.</p>	<p>There was a great commitment to the appointments, but sometimes when there was any delay, he explained to me the reasons for the delay, and the beautiful thing was that he explained some things to me even before they happened.</p>	<p>In terms of appointments, there was a commitment of 90% commitment, and once there was a delay due to a circumstance with the doctor, but most of the time the doctor came and he prepared all his tools. In terms of the treatment service, I expected it to be less than that, but their work was good and I was very pleased with the end result. . At first, I explained to the doctor that I was afraid of anesthetics, and the doctor calmed me down and did not give the anesthetic quickly, so I did not feel it.</p>	<p>In general, everything was good but only the chair had some problems but the general appearance was decent and the crew wore their clothes (the white robe) and took care of the means of protection</p>	<p>Participant 5</p>
<p>The thing that prompted me to treat dental clinics at the University of Palestine is my brother's experience with treatment</p>	<p>I noticed that there are frequent problems in the dental chair, and this leads to delaying treatment, which is one of the most negative things I have found</p>	<p>Frankly, the great commitment to the rules of sterilization and dealing was the most positive thing from my point of view, along with the great commitment to obtaining the best</p>	<p>I had dental crown and I had a desire for a certain color and he responded greatly to my desire and explained to me that as long as there is no conflict</p>	<p>I was very comfortable and the therapist was skillful. He answered all my questions and there was an atmosphere of cooperation and</p>	<p>I had a problem with a formula that he had put it to me and when I reviewed it, he treated my problem with open arms. In my opinion, the early dates were a nuisance to me</p>	<p>I came for several sessions, I was sometimes late, but I found the therapist waiting for me, and he was patient. When I came early, I always found him</p>	<p>The trainee students used to appear to be doctors, and the supervising doctors were elegant and followed every step, but</p>	<p>Participant 6</p>

here and his opinion on the quality of treatment and the wonderful result		possible result	with the treatment plan, there is no objection to that	achievement		waiting for me. There were no problems except for the chair problems but the doctor was skilled and everything was fine	sometimes there was a malfunction in the dental chair, water and air stopped	
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Second Interview								
Eighth Question Reasons	Seventh Question disadvantages	Sixth Question Advantages	Fifth Question Empathy	Fourth Question Assurance	Third Question Responsiveness	Second Question Reliability	First Question Tangibles	
I chose the treatment in the dental clinics at the University of Palestine, as one of the students who provide the treatment service there I have a previous knowledge of, and he advised me to treat in it, and when I did the experiment I found that it is really worth to go through this experience	One of the things that needs to be improved from my point of view is the issue of the x-ray queue. If I find a mechanism to facilitate this, it will be better in addition to the length of the treatment period, as I am in the dental chair for about 3 hours, which is surprising because in the private clinic it took from half an hour to an hour	One of the things that impressed me was the complete tools and the supervisors were constantly present to supervise the work and their immediate intervention when necessary, and the presence of x-rays in the place and permanent imaging of the steps to ensure the quality of the therapeutic service provided	Frankly, there was great interest and I felt that there was great eagerness to meet my needs, questions and special demands	There was a real sense of safety when dealing with the staff. As for the therapists, the supervisors were constantly on top of them, and this gave a feeling of safety, and their talk about the pre-clinical training phase was strong. I felt comfortable and reassured, and their style was sophisticated in their dealings with me as a patient	I have a positive impression about arranging appointments and waiting for patients, and it was a good and elegant discipline	I expected less services in terms of timely delivery than I actually found, as I viewed it as a university that there would be a problem in providing services on time, and I felt a real interest in dealing and solving problems from the staff as a whole and cooperation, whether from the therapist or the supervising staff, to provide a distinguished treatment service without complications, and this left I have a good impression of the university's dental clinics	Regarding the facilities and the clinic in general, the equipment is excellent, according to my opinion as a patient, without having the slightest experience with the modern systems in this field, but I saw them as excellent. Regarding their appearance, everyone was obligated to wear a white robe and their appearance was decent	Participant 1
Advice from one of the patients who received treatment was	In my opinion, the number of supervisors should be increased so that there is more time to follow up on cases	One of the things that I liked is the issue of continuous supervision, so	I am very satisfied with the staff's attention to the patient and his special needs, and	Frankly, I felt safe when dealing with the staff, and that was the result of	There was a commitment to the deadlines, but there was a delay in starting the treatment	The service in general was good, but there is a clear problem with the appointments and	The clinic and equipment are beautiful, but in my opinion, they need more	Participant2

the main reason for choosing treatment at the dental clinics at the University of Palestine		as to ensure a high quality of the treatment service provide	this impression I did not expect before my arrival	their good treatment and my impression that it was one of the best places where I received a treatment service in terms of dealing	when attending, but there was a clear response and interest in the complaints or opinions that I was putting forward	the delay in appointments. Otherwise, it was good	development, aesthetic appearances, and more advanced equipment in the world of dentistry	
I went to the clinics of the University of Palestine for the good reputation I heard about it	I see that clinics need more forms of treatment services to be complete, such as orthodontics and implants	One of the positive aspects that I have touched is the step-by-step follow-up and the cooperation that exists between them, as they work as a beehive, and also the keenness to finish the treatment with the best result	There was great attention by the staff to me and my special needs, and any complaint or suggestion from my side	I felt the treatment of my brother from the staff inside the clinics, which reinforced my feeling of safety and I am happy for this great interest that I found	There was great punctuality and no delay in the timing of providing the treatment service	The treatment services were provided on time, and there was a call to confirm the appointment, and I felt that there was a keenness to provide the best treatment service without complications	My opinion in the dental clinic is that the facilities are very clean and organized, the equipment is modern, sterile and good, and the appearance of the staff was decent and better than what I actually expected.	Participant3
If I wanted to answer why I chose dental clinics at the University of Palestine, it was at the request of a friend of mine who insisted on that and I did not regret hearing that advice.	One of the most important points that need improvement is the speed of response of technicians in the event of any failure with chairs, for example, in order to preserve the time of the patient and the doctor	One of the things that impressed me the most was the beginning of the university's location itself, then the activity of the staff, their vitality and their great enthusiasm. As for the	I am very grateful for the attention I received from the staff in me and the rest of the patients and their keenness to meet our special needs and to provide continuous advice to the patient	At first, there was anxiety and tension, but after the first session I feel comfortable and without tension, as the dealings were very elegant and the attention was great from the staff, which increased my	The work mechanism was excellent, as there is a great commitment to punctuality and there is no delay, either in providing the service or responding to any inquiries from the staff as a whole	Frankly, with regard to providing the treatment service on time, paying attention to solving any problem, and insisting on providing a treatment service free of complications, it exceeded my	If we talk about the waiting area, it is comfortable and clean. As for the equipment, it is modern, but it has frequent breakdowns sometimes and there is a delay from technicians to fix these faults. The staff is	Participant4

		treatment, it is very classy, and it is one of the most important things that I liked. Their interest has gone beyond the limits of the university, as I receive a call from them to check on the completion of the treatment, and this is something I liked a lot		feeling of safety		expectations, as what I found was .really special	decent and they are at the top of respect and commitment	
I chose dental clinics at the University of Palestine because I heard about their level of treatment and their great training during the stages of their studies, and I would love to go through this experience to see their work, which is of course better than commercial	The aspects that need improvement is the attention to the constant maintenance of the equipment, and there was only one negative thing that needed maintenance, which is the lighting of the dental chair	The wonderful performance of the therapists was the thing that impressed me the most and I wasn't expecting that level as their work is like professional doctors	I felt very satisfied with the staff's concern for the patient in general and me in particular, and their understanding of my special needs. I mentioned the situation that happened to me because of my sinus problem and their prompt and professional handling of the matter	The impression that I had is a positive one, as my experience was wonderful to the point that I told those around me about the beauty of the experience and I felt safe during the dealings because of their wonderful style and I was very satisfied with it	The appointments were accurate and there were no delays, the mechanism of work was smooth, and the therapists always answered any inquiries and it was good	The appointments were accurate, contrary to what I expected. With regard to dealing with any problem facing me, I personally had a problem because I had a problem with my sinuses, so I had difficulty breathing during anesthesia, but the therapist alerted this problem quickly and dealt with the situation and I breathed comfortably and	I was surprised by what I saw frankly, as all the facilities are modern and clean and the equipment is also the same except for one that seemed to need maintenance and regarding the general appearance of the crew was very decent and I did not expect to see that actually as what I found exceeded my	Participant5

treatment						they remained attentive to the matter and all the details	expectations	
I heard about the quality of treatment in the dental clinics at the University of Palestine and the skill of the therapists and the continuous supervision, so I decided to choose treatment in the dental clinics at the University of Palestine	From my point of view, the length of the session, which extended for more than 3 hours, was one of the most important aspects that need to be improved in the future	The aspects that impressed me are the attention to sterilization, cleanliness of tools, good treatment and great respect for patients	I feel very satisfied with the staff's attention to patients and their special needs, and frankly, I did not expect the attention to reach this level, as it exceeded my expectations	I have a feeling of comfort in dealing with the staff and safety, and this of course stems from the positive atmosphere in dealing with the staff, and this of course left me with a positive impression	The mechanism was good, as there was attention to appointments and high accuracy, unlike private clinics, for example, taking into account the patient and the pain he suffers from, and the treatment was distinguished and there were no complications, and it was a positive response to questions and a quick response without delay for any complaint or question	What I actually found was what I expected in the sense that my expectation was in place and I actually found what I expected in terms of the acceptable quality of services	The clinics were excellent, but the equipment was of medium modernity, but it was in good condition. The staff was dressed and looked good and there was a lot of interest in sterilization	Participant6

Third interview								
Eighth Question Reasons	Seventh Question Disadvantages	Sixth Question Advantages	Fifth Question Empathy	Forth Question Assurance	Third Question Responsiveness	Second Question Reliability	First Question Tangibles	
I chose treatment in dental clinics from what I heard about them, but I did not expect that the level would be this high within a university, and I am happy that I received treatment in dental clinics at the University of Palestine	The problem of frequent malfunctions of dental chairs was the most important thing that I thought needed to be improved in the future, as there were frequent malfunctions in the air and water of the dental chair.	The most important thing that impressed me was the doctors' attention to patients and their students, and they did not waste a moment to serve patients	The staff took great care of me and when I asked for anything, they would do it and they would not refuse any request based on my special needs	The staff had a great way of dealing and I felt safe while dealing with them and even during the treatment where I felt that they were using the tools with caution and I did not feel pain	The appointments at the dental clinics at the University of Palestine were organized and arranged, and there was no delay at all, and when I called for any inquiries, there was a quick response and response to me	There was an appointment set by the doctors and I kept the appointment and there was a commitment from them as well. I wanted to make a cosmetic filling for my teeth, so I felt their keenness to make a high-quality cosmetic filling and not to feel pain during the treatment	Inside the clinics, the facilities were tidy and clean, the equipment was clean and sterile, and things were much more than I expected	Participant1
I chose the dental clinics at the University of Palestine because we hear a lot about the work, they have	There are some things that need improvement, for example, the tools themselves need to keep pace with the advanced tools	Among the things that impressed me are the compatibility between the therapist and the assistant - the cleanliness of the place - the general appearance of the doctors - the doctor's interest	I am very satisfied with the doctors and their interest in me as a patient and their treatment and concern for my special needs	As I spoke previously, I had a great sense of safety, starting with the cleanliness and arrangement of the place, passing through the good treatment and taste of the staff, and even during the treatment, I felt very careful, which gave me a feeling of	In my opinion, the appointment scheduling mechanism was very good, as the appointments were accurate, and there was real interest in me as a patient, and the handling was positive, and there was no delay in responding to any question on my part,	There was a great commitment to the appointed date, which is something I did not expect, as it was customary, especially in health facilities, that there would be a delay, for example, I had an appointment at 12 and the treatment	My experience was special as the staff were showing decent appearance and the facilities were clean which exceeded my expectations as the place was very clean and honestly this is what I expected and my expectation matched what I	Participant2

		in the patient's satisfaction with the treatment		safety.	and I had no complaints frankly	session started at 12 and the whole work was keen and I felt their keenness to provide high quality treatment without complications	actually found	
I chose the dental clinics at the University of Palestine because I have a friend who received treatment with them and who encouraged me to get treatment here, and I came here satisfied with this experience	One of the things that I see the most that needs improvement is the waiting for the supervisor to come at every step, as well as the length of the session itself, which sometimes extended to four hours	The things that impressed me the most are the sterilization of the tools they use and the constant asking the therapist about me	I feel that I am completely satisfied with the attention, as my previous experience with government health centers left me a bad impression, but I found here the matter is different	Frankly, I had a feeling of safety during my dealings with the crew. Their manner of dealing was elegant, knowing that at first I was afraid of treatment, meaning that I did not expect good treatment from them	The mechanism was smooth and had high flexibility, and there was no delay, whether in the date of the sessions or at the beginning of the session itself, and also there was a quick response to any inquiries from both sides	At first, I was afraid of the issue of appointments, as appointments in health facilities usually have delays, but I felt great punctuality and great interest in solving any problem and insistence on providing high quality treatment service from all members of the staff	The place was clean and attractive, the tools were sterile and clean, and the appearance of the staff was good and gave the impression of high self-confidence	Participant3
I heard about the quality of work in the dental clinics at the University of Palestine and that the work is carried out under the supervision of specialists, so	In my opinion, the supervisory mechanism and waiting for a rather long time for the supervisor to supervise every step needs to be improved	One of the things that I liked the most is the clear privacy in dividing clinics and ensuring cleanliness and sterilization of tools	I feel completely satisfied with the staff's treatment of me in particular and patients in general and their understanding of my special needs and the constant question	I felt safe in my dealings with the dental clinic staff at the University of Palestine, and this stemmed from their style and tact	As for the appointments, they were accurate and there was no delay in the date of the session or at the beginning of the session itself, and there was an answer to any question from my side, and it was done in	To a large extent, the treatment service was provided on time, and there was great interest in solving any problem, and the staff had a clear keenness to provide treatment free of	The facilities were clean and tidy, the tools were sterile, the doctors' appearance was decent, and they were concerned with public safety measures against Corona, as they kept wearing masks and masks in general,	Participant4

I decided to come for treatment here, and frankly, I do not regret					agreement between me and the treating doctor	complications, and there was a difference between before and after the treatment session	hygiene was a priority for them	
A large number of those I know received treatment at the dental clinics at the University of Palestine, and their impression was positive about the quality of services here, especially the therapeutic service, so I chose treatment at the dental clinics at the University of Palestine	Providing sterilization devices that perform the sterilization process faster, as there is a large amount of time that the sterilization process takes. One of the most important points, in my opinion, needs to be improved in the future	The great interest and the question about me after providing the treatment service and the impression that I am in a private clinic was the most important aspect that I liked in the dental clinics at the University of Palestine	Their attention was great and their consideration for the absence of any complications was clear, in addition to their consideration of my special needs, and all this made me completely satisfied with the staff and the treating doctors	Frankly, I felt safe as a result of the permanent presence of the attending physician and his follow-up on the first hand, and the presence of the supervisors and their openness when questions were asked.	The matter was good with regard to the accuracy of the dates of providing the service and the lack of delay in providing the treatment service even after the end of the session and responding to any question or inquiry I asked	There was great interest in keeping accurate appointments and there was a clear insistence on providing high quality, complication-free treatment. For example, there were contacts to follow up and confirm my appointments.	The place was good and clean, the equipment was clean and sterile, the staff in general was great and my expectations were lower than what I actually found as I expected it to be less than that because it is a free treatment	Participant5
I chose the dental clinics at the University of Palestine	The issue of long sessions is perhaps the most annoying thing for me, and I see that it needs to	Clean facilities as you enter the clinics without worrying about yourself from	The staff is very interested in patients and I am completely satisfied with	The staff is treated in an excellent manner and tries to hear all complaints and do not feel	The staff tries hard to give appropriate and specific dates for patients and tries hard to listen to the	The staff provides the service on the appropriate and specified time and does not delay	As for the facilities, dental clinics, and the equipment inside, it is considered one of	Participant6

because they are equipped with the latest equipment, in addition to hearing the constant follow-up by specialists to the treating doctor	be improved in the future, as sessions that extend for long hours are tiring	this aspect, especially in the shadow of Corona - the staff seeks to please the patient - the calmness of the place and the enemy of chaos was one of the things that impressed me the most	their concern, especially the special needs of the patient	ashamed when you raise your complaints and treat them psychologically comfortable	patient and his complaints and puts problems in mind to find solutions to them	them, as they pay attention to the smallest details of the patient in order to provide the best service and work hard to solve any problem that the patient may encounter	the latest devices that I have seen, and the staff is very interested in sterilization, especially in light of the current situation of the Corona pandemic and in general the general appearance is psychologically comfortable and comfortable for the eye	
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Annex (7): Helsinki Committee Approval Letter

**المجلس الفلسطيني للبحوث الصحي**  
**Palestinian Health Research Council**

تعزيز النظام الصحي الفلسطيني من خلال مؤسسة استخدام المعلومات البحثية في صنع القرار  
Developing the Palestinian health system through institutionalizing the use of information in decision making

**Helsinki Committee**  
For Ethical Approval

**Date: 2021/08/02** **Number: PHRC/HC/938/21**

**Name: Hammouda Salah Shublaq** الاسم:

We would like to inform you that the committee had discussed the proposal of your study about: نفيديكم علماً بأن اللجنة قد ناقشت مقترح دراستكم حول:

**Quality of Services Provided in Dental Clinics at University of Palestine: Patients Perception and Expectation**

The committee has decided to approve the above mentioned research. Approval number PHRC/HC/938/21 in its meeting on 2021/08/02 و قد قررت الموافقة على البحث المذكور عاليه بالرقم والتاريخ المذكوران عاليه

**Signature**  
Member  Member  
Chairman  For

**Dr. Jehin Abceel**

**Genral Conditions:-**

1. Valid for 2 years from the date of approval.
2. It is necessary to notify the committee of any change in the approved study protocol.
3. The committee appreciates receiving a copy of your final research when completed.

**Specific Conditions:-**



E-Mail: pal.phrc@gmail.com

Gaza - Palestine غزة - فلسطين  
شارع النصر - مفترق العيون

**Annex (8): Administrative consent from the University of Palestine**

Al-Quds University  
Jerusalem  
School of Public Health

جامعة القدس  
القدس  
كلية الصحة العامة

التاريخ: 2021/7/14

حضرة الدكتور/ أكرم عطا الله المحترم  
نائب رئيس الجامعة للشؤون الأكاديمية - جامعة فلسطين

تحية طيبة وبعد،،،

الموضوع: مساعدة الطالب حمودة شبلاني

نشكر لكم دعمكم الدائم لمسيرة العلم والتعليم وخصوصاً دعم كلية الصحة العامة وطلابها، ونود إعلامكم بأن الطالب المذكور أعلاه يقوم بعمل بحث كمتطلب للحصول على درجة الماجستير في الصحة العامة - مسار علم الأوبئة بعنوان:

**"Quality of Services Provided in Dental Clinics at University of Palestine: Patients Perception and Expectation"**

وعليه نرجو من سيادتكم التكرم بالموافقة على تسهيل مهمة الطالب في إنجاز هذا البحث حيث أن عينة الدراسة هم المرضى البالغين الذين يتلقون العلاج في الأقسام المختلفة بعيادات طب الأسنان في جامعة فلسطين خلال العام 2021.

و اقبلوا فائق التحية و الاحترام،،،

د. بسام أبو حمدة  
منسق عام برامج الصحة العامة  
فرع غزة

نائب الرئيس للشؤون الأكاديمية  
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ص.ب. 51000 القدس

**Annex (9): List of Arbitrators**

	<b>Name</b>	<b>Work place</b>
1	Dr. Bassam Abu Hamad	Al-Quds University
2	Dr. Yehia Abed	Al-Quds University
3	Dr. Dina Bahader	Al-Quds University
4	Dr. Dima Abou Saoud	Al-Quds University
5	Dr. Adnan Lahham	Al-Quds University
6	Dr. Mahmoud Al Omiri	Jordan University
7	Dr. Yasser Baroud	Nasser Medical Complex (M.O.H)
8	Dr. Nagi shaat	University of Palestine
9	Dr. Yousef Awad	University of Palestine
10	Dr. Mohammed Al Aqad	United Arab Emirates
11	Dr Mohammed Laqan	Islamic University

**Annex (10): Study activities timetable**

<b>Researcher activities</b>	<b>May 2021</b>	<b>June 2021</b>	<b>July 2021</b>	<b>August 2021</b>	<b>September 2021</b>	<b>October 2021</b>
Writing proposal						
Proposal approval						
Preparing data collection tool						
Pilot study and modification	One week					
Data collection						
Data analysis						
Result writing						

عنوان الدراسة: جودة الخدمات المقدمة في عيادات طب الأسنان بجامعة فلسطين: تصور المرضى وتوقعهم.

إعداد: حمودة صلاح محمد شبلاق

إشراف الدكتور: يوسف الجيش

الملخص:

يتم تقديم خدمات طب الأسنان في العديد من البلدان حول العالم حيث يتوقع العملاء رعاية عالية الجودة. ركزت العديد من الدراسات الحديثة على رضا المرضى أكثر من جودة الخدمة، بينما ركزت دراسات أخرى فقط على وجهة نظر مقدم الخدمة. هدفت هذه الدراسة الى تقييم جودة الخدمات المقدمة في عيادات الأسنان في جامعة فلسطين وفق منظور المرضى اعتمادًا على الفجوة المحتملة الموجودة بين تصوراتهم وتوقعاتهم. تم استخدام تصميم دراسة مقطعية تحليلية والمنهج المختلط، وتم جمع البيانات الكمية من خلال استبيان هيكلية ذاتي الإدارة (Servqual) تم تعبئته بواسطة 353 مريضًا بالغًا ارتادوا عيادات الأسنان في جامعة فلسطين (153 ذكور و200 إناث). تم إرسال الاستبيان إلى مجموعة من الخبراء لفحص الصدق الظاهري وصدق المحتوى. تم اختبار صحة وموثوقية الاستبيان في دراسة تجريبية مع 30 مشاركًا، وكان معامل ألفا كرونباخ 0.88. تم جمع البيانات النوعية من خلال مقابلات جماعية مركزة مع ثمانية عشر مشاركًا مقسمين إلى ثلاث مجموعات. أظهرت النتائج أن جودة الخدمة المقدمة للمرضى في عيادات الأسنان في جامعة فلسطين كانت عالية حيث تجاوز تصوراتهم وتوقعاتهم، وكانت أعلى درجة في التوقع في الثقة (M = 3.83) وأعلى درجة في الإدراك كانت متساوية في الثقة والتعاطف بمتوسط درجة (M = 4.20) بينما كانت أقل درجة في التوقعات والإدراك في الاستجابة (M = 3.70). أظهرت النتائج المتعلقة بالارتباطات بين الخصائص الديموغرافية للمرضى الخاضعين للدراسة وأبعاد الجودة وجود فروق ذات دلالة إحصائية في التوقعات حول جودة الخدمات في جميع الأبعاد بناءً على عمر المريض والحالة الاجتماعية (F test 6.525, P 0.001 ; F test 5.192, P 0.006) على التوالي حيث أن المرضى الأصغر سنًا والغير متزوجين لديهم توقعات أعلى لجودة خدمات طب الأسنان مقارنة بالمرضى الأكبر سنًا المتزوجين أو المطلقين أو الأرملة. كانت هناك فروق ذات دلالة إحصائية في الإدراك الملموس فقط حول جودة الخدمات بناءً على مكان إقامتهم حيث عبر المرضى من محافظة الشمال عن إدراك وتصور أقل بكثير للأشياء الملموسة مقارنةً بالمرضى من المحافظة الوسطى والمرضى من خانيونس.

وأكدت النتائج النوعية النتائج الكمية، لا سيما فيما يتعلق بمستوى جودة الخدمة المقدمة في عيادات الأسنان في جامعة فلسطين، حيث أفاد غالبية المشاركين أن مستوى جودة الخدمة فاق توقعاتهم. هناك حاجة إلى إنشاء وحدة مراقبة الجودة التي، من بين أمور أخرى، يجب أن تعتمد سياسة ضمان الجودة وإجراء قياسات منتظمة لرضا المرضى من أجل تحسين جودة الخدمات المقدمة على أساس منتظم، وتحسين رضا المرضى وجودة الخدمة من خلال تقليل أوقات انتظار المريض. هناك أيضًا حاجة لزيادة ثقة المرضى في الموظفين والأطباء، وأخيرًا، من المهم أن يواصل مقدمو الرعاية تعليمهم في مجال الرعاية التي تركز على المريض.