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College of Dentistry

Attitude toward dental implant treatment

Project Submitted to
The College of Dentistry, University of Baghdad, Department of Prosthetic in Partial Fulfillment for the Bachelor of Dental Surgery

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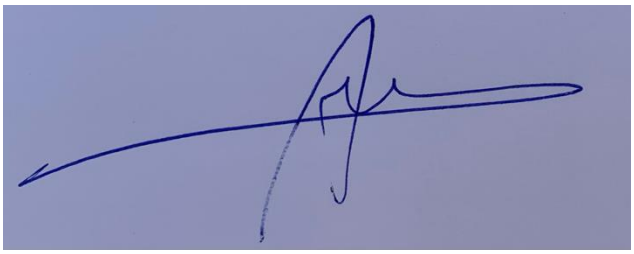
Certification of the Supervisor

I certify that this project entitled "**Attitude toward dental implant treatment** " was prepared by the fifth-year student "**Amna Ihsan Ali"** under my supervision at the College of Dentistry/University of Baghdad in partial fulfillment of the graduation requirements for the Bachelor Degree in Dentistry.



Assist.Prof.Dr. Ali Jameel Abdalsahib
B.D.S., H.D.D., M.S.C.

Dedication

To

My Mother

To the strongest woman that I know my lovely mom, who taught me to trust Allah , believe in hard work and gave me all the support and love.

To

My Father

My dad the reason why I'm here, he encouraged my to be a doctor and support me in every decision I made. For every effort that he do to us.

Acknowledgment

First of all, I want to thank ***God Almighty,*** who blessed me my whole life. Who gave me and still give me patience, health, knowledge and good family.

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In the end, I thank my family for all the support they have provided throughout the years of studying, and I would like to thank my best friends, for their support.

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Institution-based practitioners	IBPS
General dental practitioners	GDPS
Institution-based nonpractitioners	IBNPS

Introduction

A dental implant is a prosthetic device made of alloplastic material(s) implanted into the oral tissues beneath the mucosal and/or periosteal layer and on or within the bone to provide retention and support for a fixed or removable dental prosthesis; a substance that is placed into and/or on the jaw bone to support a fixed or removable dental prosthesis **(Glossary, 2017)**.

The majority of patients who were treated with implant-supported prostheses reported an increase in their quality of life, assurance, and self-confidence including psychological advantages as well as the preservation of dental structure next to the teeth to be replaced. Due to its high success rates and predictability, its clinical implication is increasing rapidly **(Aglietta M et al., 2009) (Den Hartog L et al., 2008) (Sonoyama W et al., 2002)**.

Common oral conditions have been shown to have a substantial effect on well-being and quality of life. The loss of one or more natural teeth often results in disability, as essential daily living activities, such as speaking and eating are impaired, and also in handicap, for example, by decreased social interaction because of embarrassment associated with denture wearing **(Allen PF et al., 2001)**.

The main role of prosthodontics is the rehabilitation of patients after loss of teeth and oral function. Individuals with less education and low income tend to have poorer dental status because of poor finances. Older individuals accustomed to their conventional dentures do not show interest in implant treatment **(Bhat AM et al., 2012)**.

Moreover, a large number of patients experience difficulties in adapting to removable prostheses, while a smaller number are unable to accept removable prostheses at all. This may be explained by anatomical, physiological, psychological, and/or prosthodontics factors **(Balsi TJ et al., 1994)**.

Functional tests have demonstrated inferior masticatory ability in subjects with removable prostheses in comparison to dentate controls. Even with excellent prostheses, many patients experience difficulty with denture retention, speech and mastication **(Chowdhary R et al., 2010) (Best HA., 1993)**.

Also may cause loss of occlusal vertical dimension due to attrition in the acrylic teeth and cause mobility of the abutment due to force and movement.

However, with the advent of new technology more restorative options have become available. Among these, implant treatment has come into focus, since it provides excellent long-term results in rehabilitation of partially or completely edentulous patients **(Narby B et al., 2008)**.

An implant-retained prosthesis provides greater stability, improved biting and chewing forces, and higher client satisfaction than a conventional denture. The financial cost lays a question mark in the people who are aware about implants. Thus, this study was planned to evaluate the knowledge and attitude of patients toward implant treatment as an option for replacement of missing teeth **(Eckert S et al., 2002) (Akeredolu PA et al., 2007)**.

Aims of the study

The review of the knowledge and attitude of patients toward implant retained prosthesis as a tooth replacement option, as well as general knowledge about tooth replacement, including source of information and attitude toward it. In dentistry, the replacement of lost teeth with implant prosthetics for cosmetic and functional rehabilitation has become a well established and widely utilized treatment option.

Chapter one:
Review of literature

1.1 Tooth loss

Throughout history, humans have lost their natural teeth. Teeth fall out due to a variety of factors. The majority of teeth in primitive societies are lost due to trauma. Periodontal disease has been documented in both current and prior primitive societies. Dental caries, the most common dental illness in recent generations, was present in these societies, although not to the extent that it is now **(Misch, 2017)**.

Oral diseases and its consequences, in contrast to primitive societies, have become the most common cause of tooth loss in modern societies of the 20^{th} and 21^{st} centuries. Trauma is still a factor in tooth loss, but it is less so than oral diseases**)**. The change in nutrition, which was a significant contributing element in an epidemic of dental caries during the first three quarters of the twentieth century, is one of the major reasons for the increased involvement of illness in tooth loss in modern societies. Partially missing teeth were almost universal. Total tooth loss, or edentulism, was frequent among young adults and has since become the most common condition among the elderly **(Klemetti, 2018)**.

1.1.1 Options for Replacement of Lost Teeth

When someone lost their teeth, they and the dentist face two choices. The first one whether to replace the missing tooth or not, Secondly the best way to replace the tooth. These decisions may seem sequential, they are interrelated in important ways. The technical options available can influence the decision to replace a tooth, and modern science has produced more and better options for tooth replacement in many circumstances **(Esposito et al., 2017)**.

The patient's age and general health are critical. The condition of the remaining dentition, its configuration in the mouth, and its periodontal support are very important aspects of the decision to replace **(Misch, 2017)**.

Relative cost of choices can be important, but it should not be the deciding factor in a treatment decision. In order to achieve the optimum treatment for a specific patient, the dentist and patient must weigh all of these criteria when making these decisions **(Esposito et al., 2017)**.

A number of restorative options for the treatment of missing teeth are recognized as accepted dental therapy, depending on the knowledge and attitude of dental patients, and on particular circumstances the patient presents.
These include:

1. Tissue/tooth-supported removable partial dentures.
2. Tooth-supported bridges.
3. Implant-supported teeth.

Likewise, there are two basic options for replacing teeth in a completely edentulous arch:

1. Tissue-supported removable complete dentures
2. . Implant-supported over-dentures **(Klemetti, 2018)**.

1.2. Implant

1.2.1. Definition of implant

- **Implant:** Any object or material that is partially or totally implanted or grafted into the body for medicinal, diagnostic, prosthetic, or experimental purposes, such as an alloplastic substance or other tissue (Figure 1) **(Keith et al., 2017)**.

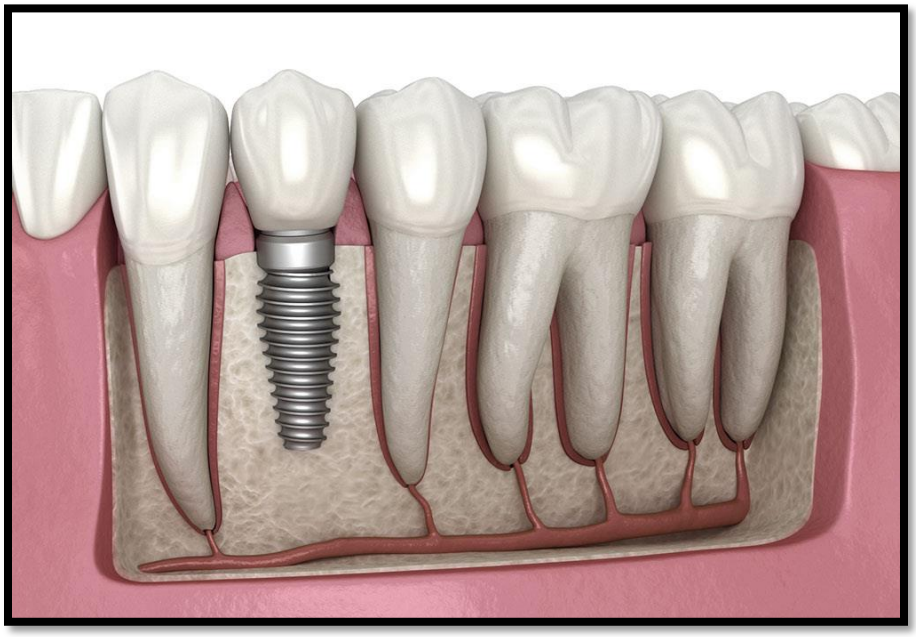

Figure 1.1: Dental implant (https://www.google.com/imgres?imgurl)

- **Implant support crown:** an artificial crown that receives support and stability from a dental implant (Figure 2) **(Keith et al., 2017)**.

Figure 1.2: Implant supported crown and bridge
(https://images.app.goo.gl/AjUBBkXJzM4RtZyp8)

- **Implant-supported denture:** dental prosthesis, such as fixed complete denture, fixed partial denture, removable complete overdenture, removable partial overdenture, as well as maxillofacial prostheses, which can be supported and retained in part or whole by dental implants (Figure 3) **(Keith et al., 2017)**.

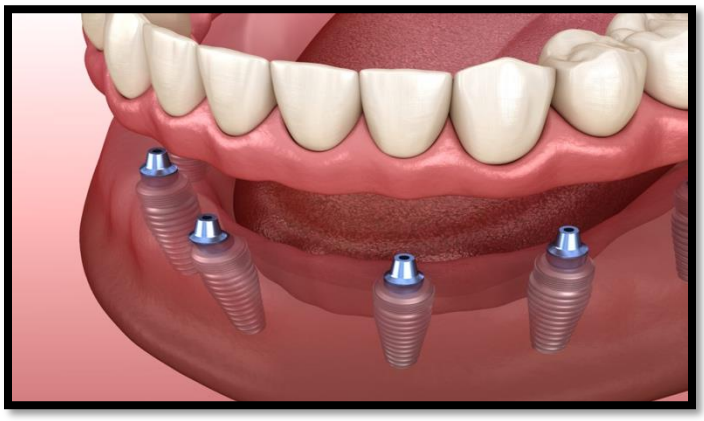

Figure 1.3: Implant supported denture
(https://images.app.goo.gl/S7iMAoy1naXHcPoL6)

- **Implant-supported prosthesis:** Any dental prosthesis, such as artificial crown, fixed complete denture, fixed partial denture, removable complete overdenture, removable partial overdenture, as well as maxillofacial prothesis,

which are supported and retained in part or whole by dental implants (Figure 4) **(Keith et al., 2017)**.

Figure 1.4: Implant supported prosthesis
(https://images.app.goo.gl/qzUyF1avQHqHn4uDA)

1.2.2 Classification of dental implant

Implants can be classified according to anatomic location, device design, implant properties, or implant attachment mechanism. In a broad context, there are four implant design types that can be classified by anatomic location and they have evolved over centuries of development **(Kenneth et al., 2018)**.

1.2.2.1 Classification of dental implant according to the implant design.

a. Endosteal implant

The end-osteal (also known as endosseous) implant is a device that is inserted into the alveolar and/or basal bone of the mandible or maxilla and normally transects only one cortical plate. These implants came in a variety of shapes, including root-form cylindrical cones or screws, as well as thin plates known as plate or blade forms, and were used in all parts of the mouth(Figure 5). The blade implant is an example of an endosteal implant that was developed independently in **(Kenneth et al., 2018)**.

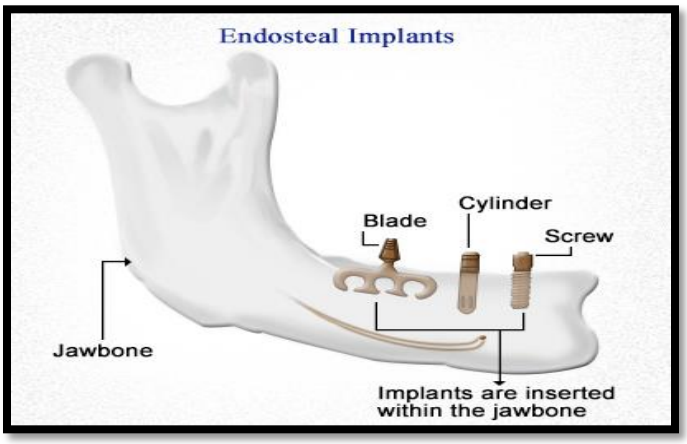

Figure 1.5: Types of Endosteal implant
(https://images.app.goo.gl/JT3CcJWZRabfP7ms8)

b. Subperiosteal implant

The subperiosteal implant, which used an implant substructure and superstructure, was the second implant design. The custom-cast frame was put precisely beneath the periosteum overlaying the bony cortex and fitted along it (Figure 6). Dahl (1943) was the first to design this implant, which was enhanced by Berman (1950) using a direct bone impression technique **(Kenneth et al., 2018)**.

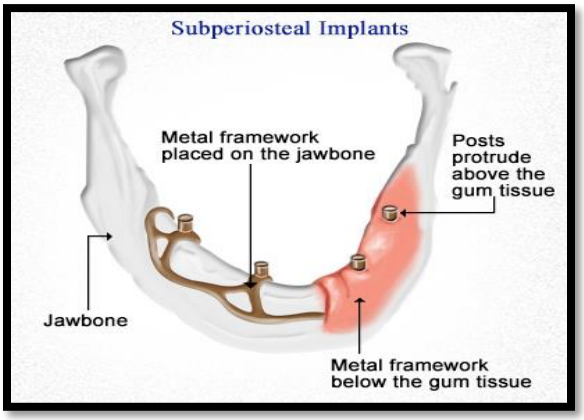

Figure 1.6: subperiosteal implant
(https://images.app.goo.gl/NTj28pQQgaXcqg6X8)

c. Transosteal implant

The transosteal implant, which combined subperiosteal and endosteal components, was the third design. This type of implant cuts through the entire thickness of the alveolar bone and penetrates both cortical plates. The transosteal implant is only used in the anterior part of the mandible and is used to support tissue-borne

overdentures (Figure 7). In the early 1930s, the concept of transosseous implants was originally proposed in Germany **(Kenneth et al., 2018)**.

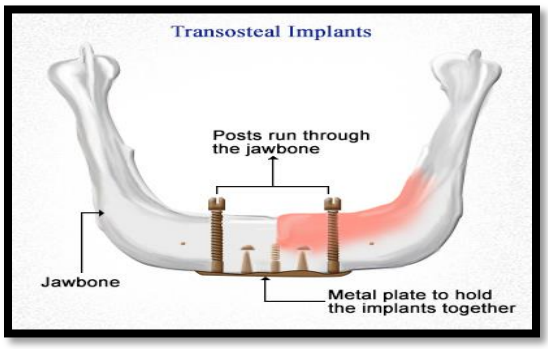

Figure 1.7: Transosteal implant (https://images.app.goo.gl/wo41d9udENzmqXry8)

d. Epithelial implant

The epithelial implant, which was inserted into the oral mucosa, was the fourth implant design. This type was linked to a simple surgical procedure that involved using the mucosa as an attachment site for metal inserts inserted in an acrylic denture. The epithelial implant has a number of disadvantages, the most notable of which is a painful healing process and the demand for continuous wear. From a historical and applications perspective, these systems were reviewed in the early 1970s by Natiella et al. (1972) and subsequently in each decade by researchers who participated in professional society–based consensus conferences **(Kenneth et al., 2018)**.

1.2.2.2 Classification of dental implant according to the type of treatment (fix implant prosthesis and removable implant prosthesis)

A number of restorative options for the treatment of missing teeth are recognized as accepted dental therapy, depending on particular circumstances the patient presents **(Keith et al., 2017)**. These include:

A. Fix implant prosthesis:

In the edentulous jaw, fixed-implant prostheses are a scientifically justified therapy choice. For fixed implant-supported restorations, two fixation systems are used. They can be attached to implants with screws, they can be cemented to abutments which are attached to implants (Figure 8). Despite their high survival rates, patients' concerns have been reported periodically for implant supported fixed bridges, resulting in low patient comfort **(Bergkvist et al., 2004)**.

Advantages:
1-Improves appearance and smile,
2-cost effective,
3-preserves bone and soft tissue,
4-never decays,
5-very high success rate and able to clean the fixed implant bridge like natural teeth **(Bergkvist et al., 2004)**.

Disadvantages are:
1-It takes 3 months for the healing and restoration,
2-requires a surgical procedure,
3-cleaning regime more comprehensive than removable teeth options.
And long-term maintenance usually requires removal of the prosthesis **(Bergkvist et al., 2004)**.

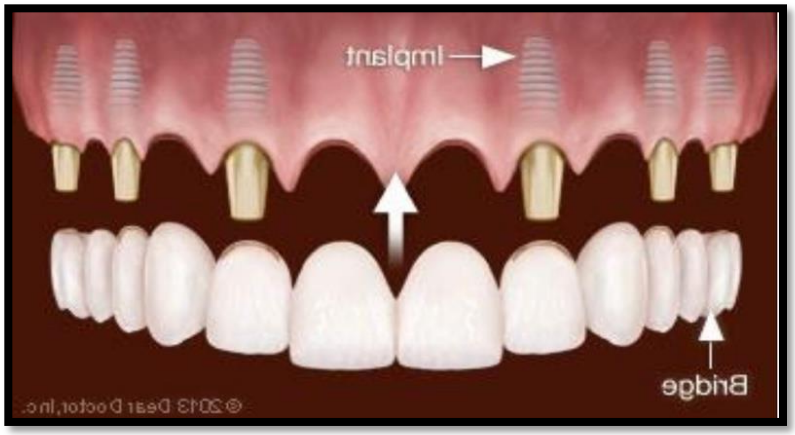

Figure 1.8: Fixed implant prosthesis (bridge) (Bergkvist et al., 2004)

B. Removable implant prosthesis

A removable dental prosthesis that covers and rests on one or more remaining natural teeth, natural tooth roots, and/or dental implants is known as an overdenture (Figure 9). Overdentures supported by implants have been found to have a long-term success rate, especially when utilized to restore edentulous jaws. This therapy method has shown high implant survival rates and patient satisfaction
(Walton et al., 2009).

Advantages are:
1-relatively inexpensive teeth,
2-provides lip support,
3-easy to remove and clean outside of mouth,

4-improved stability and functionality to approximately 60% to 80% compared to natural teeth **(Walton et al., 2009)**.

Disadvantages include:
1-uncomfortable and may cause sore spots on gum tissue remove this line,
2-may still move when eating certain very hard and very chewy foods,
3-may require relines to improve fit and comfort as bone deteriorates **(Walton et al., 2009)**.

Figure 1.9: Removable Implant Prosthesis (overdenture) (Walton et al., 2009)

1.2.3 Comparison of implant-retained overdentures and conventional complete dentures (clinical aspects and patient satisfaction)

Conventional dentures are held in place by retention which depends on boarder seal, pressure, adhesion, and cohesion which can slip and even fall out – many traditional denture patients find them uncomfortable to wear and feel self-conscious about eating or speaking in public. In contrast, implant retained overdenture offer several benefits **(Meijer et al., 2003)** including:

a.Improved stability: No more messy, unreliable adhesives that can cause dentures to dislodge while eating or speaking.

b.More comfortable fit: Dentures retained with implants fit more securely than conventional dentures, reducing the likelihood of mouth sores or regular discomfort.

c.No dietary restrictions: conventional dentures offer less bite strength than implant retained overdenture, making hard and chewy foods difficult to eat.
Overdentures enable you to eat the foods you enjoy and chew food more thoroughly, promoting better digestion.

d.Preserves jawbone: Unlike traditional dentures, overdentures help to prevent bone resorption (shrinkage) by stimulating the jawbone. The implants act as artificial tooth roots, preserving the bone and preventing the shrunken, prematurely-aged look that occurs over time if you lose your teeth and don't replace them.

e.Better quality of life: With renewed confidence in their appearance and ability to eat and speak without embarrassing dislodging incidents, many of our patients find that overdentures have a positive impact on both their physical and mental health (Figure 10).

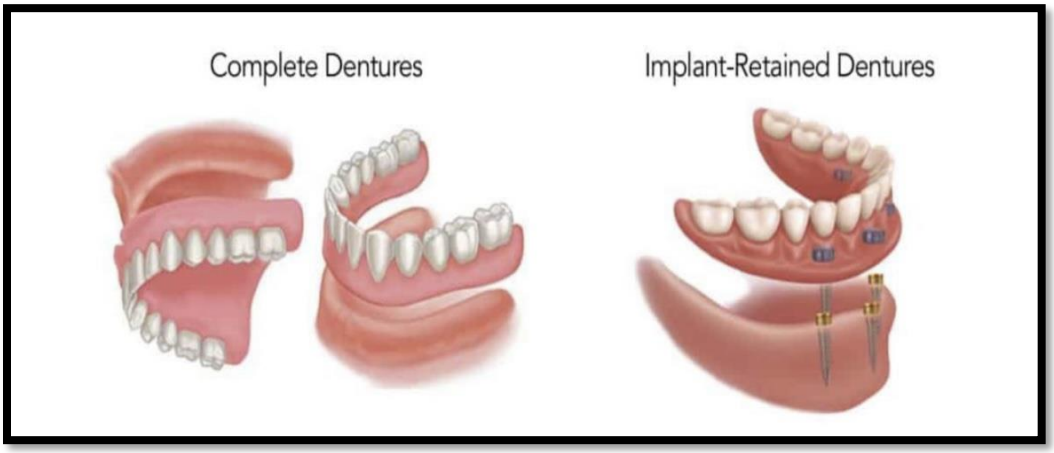

Figure 1.10: Complete denture and Implant-retained denture. (Meijer et al., 2003)

1.2.4 Comparison of Implant retained overdenture and Tooth supported overdenture

Comparison of implant retained overdenture and tooth support overdenture (clinical aspects and patient satisfaction), shown in Table 1.1 and Figure 1.11 **(Samra et al., 2015)**.

Table 1.1

Tooth support overdenture	**Implant retained overdenture**
supported by natural teeth/root	Supported by dental implants
Retention of natural teeth in the jaw helps preserve bone by delaying the process of bone resorption in the jaw	dental implants are substitute tooth roots, providing the same function as natural tooth roots including stimulating the bone, thereby preserving it and preventing the bone resorption.
Improper maintenance of the overdenture may lead to periodontal breakdown of the overdenture abutments and the patient may lose all his remaining teeth.	Improper maintenance of the overdenture may lead to peri-implantitis patient may lose of implant.
Cannot be used in cases with reduced inter-arch space, bony undercuts	Can be used in most of cases
Endodontic therapy and coronal restorations may be needed	Hard/soft tissue augmentation may be needed
To provide adequate support, there should be 1 abutment tooth per quadrant and abutment should ideally be a canine.	Edentulous patients with sufficient amount of bony ridge on their jaws can opt for implant supported overdenture
There is a Proprioception	No Proprioception

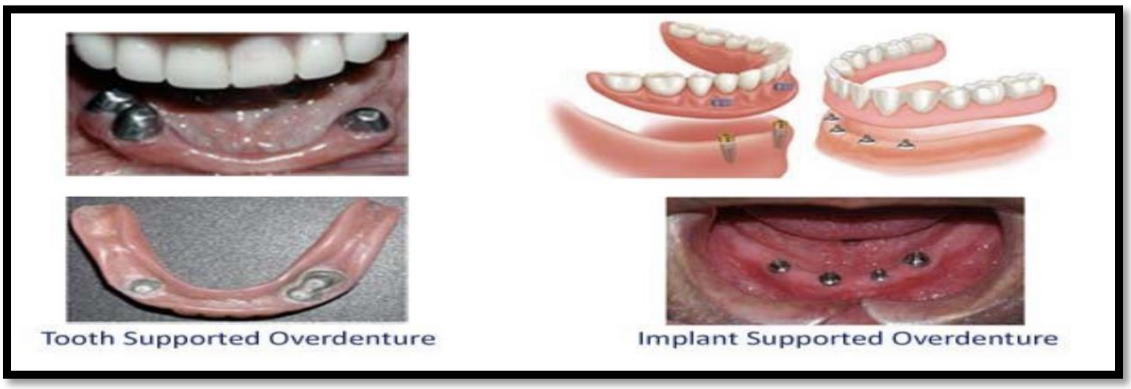

Figure 1.11: Tooth supported overdenture VS Implant retained overdenture (Samra et al., 2015).

1.2.5 Comparison of a dental bridge and implant (clinical aspects and patient satisfaction).

A.Tooth-Supported Prostheses: Fixed Bridges

This prosthesis is set in place next to the missing tooth spaces. It is supported by the adjacent teeth's integrity. Fixed prosthesis have also been used in dentistry for a long time. Mastication stresses are transmitted to the abutment teeth via the support framework. Because it is part of their normal function, these tissues are capable of absorbing the stress of mastication. The more the force put on the abutment teeth, however, the longer the span of replaced teeth. Furthermore, caries is a danger for crowned abutment teeth under the crown and along its margin with the tooth structure. The entire support for the fixed bridge can be compromised if the periodontal health of the abutment teeth deteriorates **(Babbush et al., 2010)**.

B.Bone-Supported Prostheses: dental implants

The dental implant, which is a replacement for a tooth's root, is the final method of tooth replacement. The implant is placed where the lost tooth's root once was. Dental implants nowadays are strong, durable, and seem completely natural. They provide a long-term solution to tooth loss. Dental implants are one of dentistry's most effective operations. Lower jaw implants have a 5-year success rate of 95% and upper jaw implants have a 5-year success rate of 90%, according to studies.

Dental implants are less dependent on the position of the remaining natural teeth in the arch than tooth- or tissue-supported prostheses. They can be utilized to support prostheses for a totally edentulous arch, an arch without posterior tooth support, and nearly any partial edentulism configuration with tooth support on both sides of the edentulous space. Dental implants can also be used in conjunction with other

restorative procedures to provide the best results. A single implant, for example, can support a crown that replaces a single missing tooth. Implants can also be used to support a dental bridge to replace several missing teeth, as well as to improve the stability of dentures and prevent gum tissue irritation. The integration of a mini-implant is another strategy for implant placement in narrow spaces. Small teeth and incisors may benefit from mini-implants **(Babbush et al., 2010)**.

1.3 Psychologic attitudes of patients to implant

Due to its gnathological, psychological, cosmetic, and functional implications, prosthetic rehabilitation of patients with missing teeth is one of the most complicated problems in dentistry. The loss of teeth can represent a severe disability that directly impacts on the quality of life. Teeth serve both as part of the masticatory system and also greatly contribute to phonetics, functions and aesthetics. People's psychological reactions to tooth loss used to be unconcerned, with the majority of them adapting to replacement prostheses including crowns, bridges, and dentures. Today's attitudes are changing; many patients prefer an implant restoration operation for psychological and functional reasons. Implants improve retention and stability of the complete dentures, thereby providing functional, psychological and social advantages, and partial fixed reconstructions avoid the need to prepare intact adjacent teeth. Additional positive factors are preventing continuous alveolar bone resorption, preserving ridge height and width, and improving aesthetics, especially in anterior regions **(Keith et al., 2017)**.

In 1989, Grogono et al. Measured the psychologic attitudes of patients to implant prostheses and compared their status before and after therapy, reported that, of the patients questioned, 88% had an increase in their self-confidence after implant treatment, 89% said that they would accept to go through implant treatment procedure again, and 98% said their oral health had generally improved **(Grogono et al., 1989)**.

The patient satisfaction with the implants was good or excellent in 88% of cases. Satisfaction with the prosthetic treatment was 80%. The whole treatment was considered good or very comfortable by 86% of patients. If necessary, 91% of patients who underwent the procedure would do so again, and 94% would recommend the procedure to someone else **(Buch et al., 2002)**.

In 2007, J. Rustemeyer et al., in their research, Patients' knowledge and expectations regarding dental implants: assessment by questionnaire, 315 patients were

questioned, 85% of 315 patients questioned thought that implants require the same care as natural teeth, 61% expected an additional payment of 2000 Euro or less, 80% held the function of an implant-supported overdenture as very important and 54% attached great importance to the aesthetics **(Rustemeyer et al., 2007)**.

In 2018, Aarti Ganesh et al. Found in a Cross-Sectional Study, the survey was conducted among 168 participating members, based on the maintenance of oral hygiene, the age group of 15–30 years took the best care of their oral hygiene. Thus, dental implants should be advised to this age group **(Aarti and Mahesh, 2018)**.

1.4 Public awareness and acceptance of dental implants (sources of information)

Dental implants information is available from a variety of sources. The main sources of information are dentist, internet, advertisement, TV/Radio, newspaper/journal, friends and relatives. In 1992, the first study was conducted to determine public awareness and acceptance of dental implants. A total of 120 adult US citizens were asked to complete a questionnaire, and 77% had heard about dental implants, mostly through the media and lay people. Only 17% said they got their knowledge from a dentist or physician **(Zimmer et al., 1992)**.

The author Berge TI conducted a nationwide survey in 2000 to assess public awareness, information sources, and oral implant evaluation. In Norway, 70.1% of the general population has heard about oral implants. No specific demographic variables were associated with unawareness of oral implants. Oral implants were rated favourably by 60.4% of the general public, and 56.7% would consider them as a treatment option if they were needed, while 18.0% gave a negative rating and 23.0% would not consider implant therapy **(Berge TI., 2003)**.

Tepper et al and Sulieman Al-Johany et al, in their research, representative marketing-oriented study on implants in the Austrian population, the implant acceptance, patient- perceived cost and patient satisfaction showed that the awareness rate of dental
implant procedure was 72%, and 42% of those who questioned said that they were not informed at all about dental implants, while only 4% said they were well informed about dental implant. Indicated that 66.4% of the 379 subjects in Riyadh, Saudi Arabia, knew about dental implants. The subjects' friends and their relatives were the main source of information about dental implants for 31.5% of the subjects, and dentists were the secondary source for 28.3% of the sample **(Tepper et al.,2003) (Sulieman Al-Johany et al.,2010)**.

In 2014, AQIL MALIK et al, reported in their research that among 181 participated in the survey at Pakistan, Lahore, only 72 (39.8%) of the respondents had heard of the method whereas 109 (60.2%) had never heard of the treatment method. Dentists were the major source of information about dental implants (65.2%). Over 90% of the respondents thought dental implant treatment was very good or good. When given an option for treatment with dental implants willingness to get treatment 80 (44.1%) were definite to get dental implant treatment, 66 (36.4%) thought they would most likely get dental implant treatment. In Pakistan awareness about oral health is scarce and health programs are not in place to educate the population about dental problems and their solutions. In various studies done abroad it has been noticed that awareness about dental implants in the third world countries is scarce **(Malik et al., 2014)**.

The authorities Mohammed kola et al, reported in their research, which was a survey-based study among 162 adult male and female patients, that was conducted in Kingdom of Saudi Arabia, 64.8 % were males and about 75% individuals were between 25 to 45 years of age. 73.5 % of individuals wanted to get their missing teeth replaced by dental implants. Only 22% of the population got knowledge of dental implants through dental practitioners. While the authorities Ahmed Almusawi, selected Sample Randomly in Kuwait. A cross-sectional survey, 527 adult participants were interviewed, (96.4%) of participants had heard of dental implants, and (79.2%) were willing to learn more about dental implants. Almost, two-third (64.9%) of the respondents thought dental implant to be the healthiest treatment mode for missing teeth. Maximum (33.9%) participants gathered dental implant information through media, followed by friends or social gatherings (24%), dental clinics (23.3%), and family (18.8%). Significantly more females than males, and more Kuwaitis than non-Kuwaitis expressed, 'Good looking', the reason for acceptance for dental implant. **(Mohammed kola et al., 2016) (Ahmed Almusawi A. et al., 2017)**.

Nagpal D et al, demonstrated in their research, a cross-sectional study among dental postgraduates and practitioners in Davangere City, Karnataka, that the knowledge of implants among the respondents was found to be maximum in postgraduates followed by institution-based practitioners (IBPS), general dental practitioners (GDPs), and institution-based nonpractitioners (IBNPs) in descending order. There was a significant difference in the attitude of these respondents. Most of the IBPs had a highly positive attitude towards implant dentistry whereas GDPs had a highly negative attitude toward the same **(Nagpal D et al., 2018)**.

The authorities Hussain M Kinani et al, found in their research at southern region of Saudi Arabia regarding dental implants that 85% and 71.0% of the medical and non-medical subjects, respectively know the importance of replacement of missing teeth, while 50% had known the different types of dental implants with no significance between the two groups. Dentists were the sources of the information (43.3% and 34.8% for the medical and non-medical groups respectively). **(Hussain M Kinani et al., 2018)**.

While Hilal Peker Öztür et al, suggested in their a cross-sectional study in Turkey regarding dental implant treatment in an urban population. Only 6.9% of the participants had never heard of dental implants. Another 36 participants could not describe dental implant. 22.8% of the respondents reported that dental implants required the same care as natural teeth. The major reason of rejection of the implant treatment was reported as its high cost. In addition, the respondents thought that the main factor of implant failure was bad oral hygiene or faulty production of dental implants. Internet, TV, or newspapers were the main source of information about dental implant. Abdulrahman Alajlan et al, concluded that an acceptable level of awareness regarding using dental implants as a treatment option for replacing missing teeth, with friends being the main source of information, (figure 12) **(Hilal Peker Öztür et al., 2019) (Abdulrahman Alajlan et al., 2019)**.

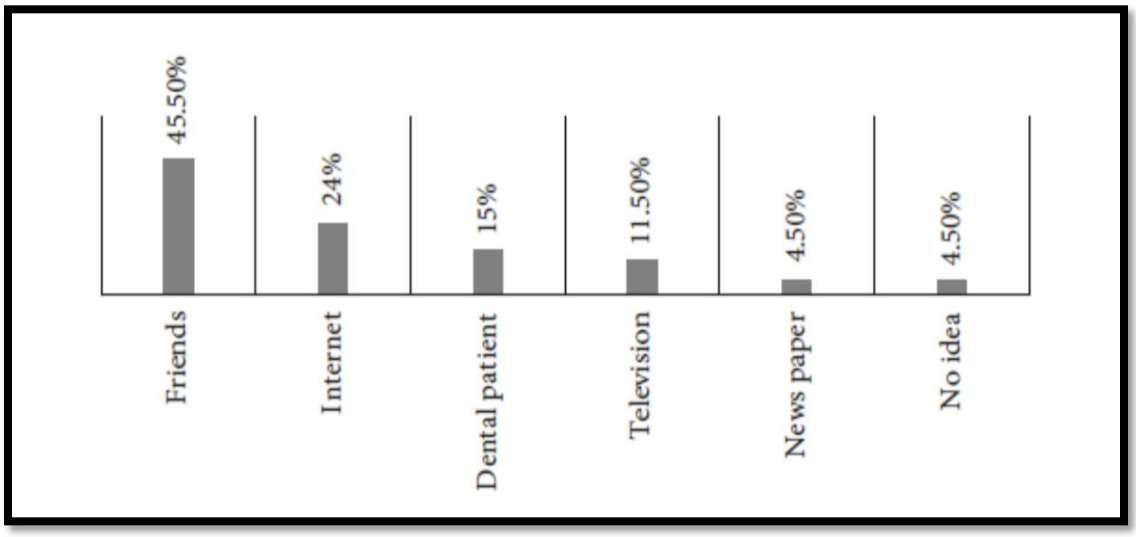

Figure 1.12: Percentage of different sources of information about dental implants as preferred by the questioned subjects. (Abdulrahman et al., 2019).

Richa Shalya et al, based on there research assessment of Public Awareness towards dental implants. Using Web Based Survey Technique, among 120 participants, 95.6% of the participants were aware of dental implants. Dentists are the main source of information on dental implants followed by internet. 84.6% of the participants wanted additional information on dental implants. 52.2% of the participants regarded high cost of treatment as biggest disadvantage. 45% of the participants blamed poor maintenance for the failure of implants 36.3% of the participants thought implants would last 10 years. 85% of the participants were ready to restore their missing teeth with dental implant **(Richa Shalya et al., 2020)**.

1.5 Methods for assessing the knowledge and attitude of dental Patients

A. A structured questionnaire with multiple-choice questions:

Structured questionnaire is a document that consists of a set of standardized questions with a fixed scheme, which specifies the exact wording and order of the questions, for gathering information from respondents **(Glimmann and Julia, 2003)**.

During the four-month period from October 2014 to January 2015, a cross-sectional survey of 527 people was done among the general public through personal interviews using a structured questionnaire with multiple-choice items. The subjects were chosen at random from the general public's attendance at local malls, supermarkets, and food conventions. Personal information, educational level, and a brief dental history were all included in the questionnaire. The survey's four

interviewers were all dentists, and the questionnaire was available in both Arabic and English **(Ahmed et al., 2017)**.

B. A closed-ended questionnaire:

Closed ended questions are those that require respondents to select from a limited selection of pre-defined replies, such as "yes/no" or a set of multiple choice options. Closed-ended questions are commonly used to collect quantitative data from respondents. Closed-ended questions come in a variety of shapes and sizes, but they're all defined by the necessity for a response to choose from a list of options **(Glimmann and Julia, 2003)**.

A number of people were asked about their understanding about implants in a closed-ended questionnaire research done at Riyadh colleges. Questions were added to determine understanding, source of knowledge, social attitudes of implant treatment, and other relevant information. From the time of registration to the end of the research, it took two months **(Hashmaih et al., 2017)**.

In this cross-sectional study, two groups of patients (a total of 126 adult patients) were asked to fill out a questionnaire (figure 13) that included implant knowledge questions as well as questions about any sources they utilized to learn about dental implants (figure 14). Patients in Group I presented for treatment of a dental emergency (general population group), while patients in Group II presented for an implant consultation **(George et al., 2017)**.

IMPLANT KNOWLEDGE SURVEY

Male: _____ Female: _____ Age: _____

Highest level of education:

Grade school _____ Some college _____ Advanced or professional degree _____

High school _____ College degree _____

Have you ever had a dental implant placed? Yes _____ No _____

If you answered NO, please answer the following question

Have you ever heard of dental implants? Yes _____ No _____

If you answered Yes, please answer the following questions:

1. Where did you get most of your information about dental implants (select all answers that apply)
   Friends or relatives _____
   My dentist _____
   The internet _____
   Television _____
   Newspaper or magazine _____

2. What material are dental implants made from?
   Porcelain _____
   Stainless steel _____
   Titanium _____
   Ceramic _____

3. How long do you think dental implants last?
   Less than 5 years _____
   5-10 years _____
   10-20 years _____
   More than 20 years _____

4. Do implants require the same brushing and flossing as natural teeth? Yes _____ No _____

5. Which of the following would be the most important factor in your deciding not to have a dental implant placed if you had a missing tooth?
   The cost of the procedure _____
   Fear of the operation _____
   I would not like a foreign object placed in my body _____

6. Which of the following practitioners do you think are most qualified to place dental implants?
   Oral surgeons _____
   Prosthodontists (dentists who specialize in making dentures) _____
   Periodontists (dentists who specialize in treating gum diseases) _____
   Cosmetic dentists _____
   General practice dentists _____

Figure 13: A closed-ended questionnaire (George et al., 2017).

C. A self-administered questionnaire (SAQ):

Refers to a questionnaire that has been designed specifically to be completed by a respondent without intervention of the researchers (e.g. an interviewer) collecting the data **(Glimmann and Julia, 2003)**.

With informed consent, a cross-sectional questionnaire-based survey was undertaken using the census approach (The traditional approach to the population census consists in the registration of all individuals and their details using paper questionnaires during a field operation that normally lasts a few days or weeks). A pretested, self-administered questionnaire containing demographic information as well as knowledge, attitude, and practice-based questions was distributed to 452 participants (276 postgraduates and 176 practitioners). After three rounds of follow-up, 416 completed questionnaires were returned, resulting in a 92 percent response rate **(Nagpal et al., 2018)**.

D. A self-explanatory questionnaire:

It is a self-administered questionnaire which contains information and instructions to simplify the questions **(Glimmann and Julia, 2003)**.

A self-explanatory questionnaire was designed to assess the level of knowledge, source of information, and attitude of dental patients regarding using dental implants. The questionnaire comprises 16 questions. The questionnaires were distributed in dental clinics of Collage of Dentistry, Qassim University, Saudi Arabia. Were handed to the patient during their regular dental visits. The respondents were informed about the aim of the study. A random sampling method were carried out with convenient sample size (n = 200) **(Abdulrahman et al., 2019)**.

E. An online questionnaire:

Is a structured questionnaire that the target audience fills out on the internet, usually by filling out a form. The duration and format of online surveys might vary. The data is maintained in a database, and the survey tool usually includes some level of data analysis in addition to expert assessment **(Glimmann and Julia, 2003)**.

Hisham Abdullah and his colleagues want to start a new project in 2020. A quantitative approach was utilized in a cross-sectional study, which collected data using an online questionnaire. The inclusion criteria resulted in the participation of 905 individuals (above 18 years of age, know how to read and write, and technology literate) **(Hisham et al., 2020)**.

Chapter two:
Discussion

In dentistry, the replacement of lost teeth with implant support prosthetics for cosmetic and functional rehabilitation has become a well established and widely utilized treatment option. The majority of the population respondents in this survey who had heard about dental implants were between the ages of 21 and 40 and had a university education or higher. This can be due to the younger generation's growing interest in dental treatment as well as shifting views on medical and dental technology improvements **(Chowdhary R et al., 2010)**.

The patient's attitude, the patient must perceive the need to eliminate the space or have the tooth replaced. Aesthetics may be the most important factor to the patient and their demands affect the decision concerning the method of treatment **(Gibbard L L et al., 2002)**.

The timing of tooth replacement, if a missing single tooth has been lost during adolescence, the decision of what treatment to use may change. For example, the clinician may not consider placing implants in a patient under the age of 16. Another treatment option may be more appropriate until jaw and dental development are largely completed **(Haas R et al., 2002)**.

The patient's desire to have some form of fixed prosthesis as opposed to a removable prosthesis. This may be a supporting factor if the patient's occupation involves public speaking or playing certain musical instruments. However, the decision may be different if the patient is involved in any form of contact sport that risks further tooth loss or damage to expensive and complex treatment.
(Romeo E et al., 2002).

The subjects current oral hygiene level was assessed first in the studies. Plaque, calculus, and stains on the existing teeth were used to determine the grades. This gave us a sense of whether the patients were concerned about their dental health and were aware of the need of maintaining it. According to the findings of these research, female participants had better oral hygiene and were more aware about their oral hygiene than male participants. Next, the participants were asked which dental prosthesis is currently under use. Fixed partial dental prosthesis is more expensive than removable partial dental prosthesis **(Walton et al., 2009)**.

The reasons for choosing or not choosing dental implants were then assessed. The most common cause for patients' refusal to choose dental implants was their lack of knowledge about this treatment option. Furthermore, the most popular reason for not choosing dental implants was the high cost. In numerous surveys, dental implants were shown to be less popular than fixed dental prosthesis and removable dental

prosthesis. The length of the waiting period, the expensive cost, and the surgical procedures involved were all deterrents to using implant prosthesis. To eliminate these factors, new discoveries in the field of dental implants are needed.
The dentist played a crucial role in advocating the use of and creating awareness about dental implants. They should explain well to the patients regarding the surgical procedures involved and why there is a long waiting period. Electronic media should be used more effectively to improve awareness regarding dental implants. Social awareness camps should be held to make the masses aware of this treatment modality. The social campaigns and official information programs should be instigated for improving the knowledge of the patients. Structured programs should be also introduced at an academic level, for enhancing the knowledge related to replacing missing teeth and dental implant **(Faramarzi et al., 2012)**.

In certain studies, the dentist was the primary source of information. Other research have found that electronic media sources are to blame for patients' awareness of dental implants; the participants who volunteered had learned about dental implants from electronic media sources **(Ahmed et al., 2017)**.

Chapter three:
Conclusion

1. In partially/completely edentulous patients, implant therapy has become a key aspect of treatment to restore function and esthetics.
2. Dental implants are becoming a more generally accepted therapeutic option for the replacement of lost teeth in dentistry. The treatment's efficacy and favorable prognosis have made it highly popular among dentists who provide implant-supported rehabilitation to patients who have lost teeth or have significantly impaired bone structure. Several research from various nations have reported on how well patients understand and are aware of oral implants.
3. The majority of the patients had little understanding about implant therapy, emphasizing the importance of educating them. There is a need to provide more information to patients regarding this therapy option. Awareness programs should be utilized in this regard so that more people might benefit from this therapy option.
4. To improve knowledge of dental implant treatment in the country, necessary efforts and steps should be taken. The survey also indicated the necessity for specialists in this field to raise public awareness and provide appropriate information about dental implants.
5. The best questionnaire is the Structured questionnaire from accurate aspect, but it take time and need for the dentist to do interviews. So we can use an online questionnaire due to it’s easy fill out, less time consuming, and the database can be saved.

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