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A retrospective study in a comprehensive assessment of the various systemic factors of Iraqi patients receiving dental implants

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Abstract— *In this study, 220 patients from different hospitals in Iraq and distribution Lost follow-up implants and Failed implants of the patient's study for four years, 300 implants. Study showed 220 participants were included, and the average age ranged between 40-60 years with a mean value and standard deviation of 48±7.8.0 This study was designed by adopting an analysis approach for all factors affecting dental implants, and the results were analysed according to the statistical analysis program IBM SPSS Soft. The quality of life (WHO QOL-BREF) was also measured for the purpose of conducting a comprehensive assessment of the various systemic factors of Iraqi patients receiving dental implants. The results which found to be distributed according to gender for 130 male patients with 59.09%, females for 90 patients with 40.09%, Implant insertion torque range achieved in no. of cases (Maxillary dental implants with No. of implants placed 30 for 30±4.9 N and 40 No. of implants placed with Implant insertion torque range achieved in no. of cases 45±7.7 N), (Mandibular dental implants with No. of implants placed for 40 (Implant insertion torque range achieved in no. of cases 34±3.4), (Mandibular dental implants with No. of implants placed 175 and Implant insertion torque range achieved in no. of cases 47±6.6) The effect of dental implants on the quality of life of patients was also identified, and a statistically significant relationship was found at a p-value < 0.05*

Keywords— ***Comprehensive, Dental, Implants, Quality of life, Maxillary, Torque.***

I. INTRODUCTION

Scientifically backed technological advances in the past 40 years have positioned implantology not only as a business philosophy but as a true therapeutic alternative [1,2]. Dental implants are widely prevalent and have very high success rates2, with an expected success rate of 85% after five years of observation and 80% after ten years of observation [3,4]

Although dental implant treatment requires some specific characteristics that the patient must meet, [5] such as the amount of alveolar bone, which is usually completely deficient in older patients, it has been shown that the person applying for treatment and that at the end of all its stages is successful, an improvement The patient's quality of life and functionality is almost 100%. [6,7]

In a long-term study in arrogant jaws conducted at the University of Gothenburg, success rates were obtained of 95% in the upper jaw at 5 and 10 years, 92% at 15 years, and 99% in the lower jaw at 15 years. [8,9,10] The validity of the osseointegration proposed in the 1980s made it necessary to continue research into the bone interface tissues of dental implants as a basis for permanent scientific support [11,12]

There are many concepts that need to be clarified in order to objectively say that the implant was successful. Success may be considered when, in addition to the implant's durability (survival), it is necessary to be complication-free during the follow-up period. [13,14]

At the same time, the other success criteria for Brixton meet.2 The survival/survival concept is the proportion of implants that show no motor symptoms or pain when cleared manually or electronically; In addition, there should be no sign of radiological transparency in radiographic interpretation [15]

It has been suggested that several risk factors may threaten long-term implant survival, [16] including inadequate planning or poor surgical technique, such as insufficient torque, initial instability, and improper distribution of the implant in the arch. [17], mandibular location, implant dimensions (length, diameter, and implant design), simultaneous implant site, a moment of loading, and patient-related factors such as age, smoking, history of periodontal disease, diabetes, and osteoporosis [18]

With the continuous development of dental implant technology, the long-term efficacy of implant restoration has also been greatly improved, but it is also accompanied by certain complications after restoration and clinical failure rates. [19]

How to improve the long-term success rate of reconstructive implants in clinical work remains a concern for clinicians. There are many reports abroad to evaluate and study the long-term efficacy of implant restoration [1-7], but domestic research in this area is not sufficient [20].

II. MATERIAL AND METHOD

In this study, were included 220 patients from different hospitals in Iraq and. Primary and demographic information of the patients were collected (age, body mass index, gender, marital status, smoking, chef complaint).

In this study distribution of Lost follow-up implants and Failed implants of the patient's study for four years, 300 implants

In this study, various factors affecting the duration of dental implants were identified; It can be summarized as follows:

The time of tooth extraction (after tooth extraction, a replacement should be sought immediately so that the jawbone does not shrink).

- Implants in the upper or lower jaw (the lower jaw usually heals more quickly).
- The patient's age and general health (e.g., diabetes and smoking delay wound healing).
- The quantity of implants needed.
- Jaw length and width.

The implant placement process takes between 30 minutes to 120 minutes and depends on the number of implants and the condition of the jawbone. After that, three to six months must pass for the implant to fuse with the jawbone. This study was designed by adopting an analysis approach for all factors affecting dental implants, and the results were analysed according to the statistical analysis program IBM SPSS Soft.

III. RESULTS

Table 1- Characteristics baseline demographic results of the patient, N=220

Variable	**Value**
Age (Mean±SD) YEARS	48±7.8
Sex	
Male	130 (59.09)
Female	90 (40.09)
BMI (Mean±SD) kg/m2.	29.9±2.2
Material status	
Married, N (%)	73 (81.1)
Unmarried, N (%)	17 (18.8)
Smokers	
Yes, N (%)	180 (81.81)
No, N (%)	40 (18.18)
chief complaint	
Functional N (%)	200 (90.9)
Aesthetic N (%)	20 (9.09)

Table 2- Distribution Lost follow-up implants and Failed implants of the patient's study for four years, 300 implants

	Lost follow-up implants	**Failed implants**	**Total**
First-year	2	2	326
Second year	2	1	323
Third year	3	2	318
Fourth-year	2	1	315
Total	9	6	---

Table 3- Characteristics of the length/width of dental implants in patients, 285 implants

V	3.75mm	4.1mm	5.1 mm	Total
8 mm	1	15	11	27
10 mm	8	70	60	138
11.5	12	58	50	120

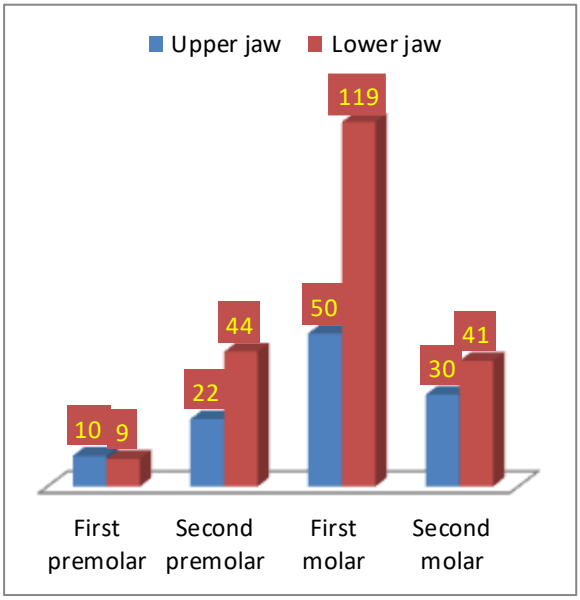

Fig 1- The quantity of implants in the upper and lower jaw

Table 4- Classification of Bone Quality Index

Type	Description
Type I	homogeneous cortical bone
Type II	thick cortical bone with marrow cavity
Type III	thin cortical bone with the dense trabecular bone of good strength
Type IV	very thin cortical bone with the low-density trabecular bone of poor strength

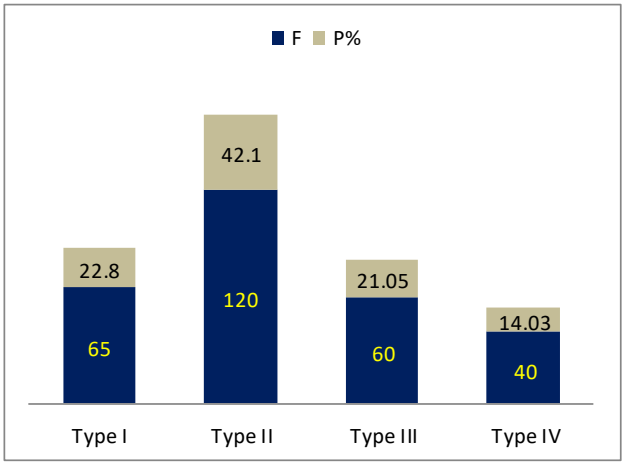

Fig 2- Results of the distribution of implant amounts according to the type of bone

Table 5- Implant insertion torque range achieved in no. of cases

Surgeon no.	No. of implants placed	Implant insertion torque range achieved in no. of cases Mean ±SD
Maxillary dental implants	30	30±4.9
	40	45±7.7
Mandibular dental implants	40	34±3.4
	175	47±6.6

Table 6- Complications of patients according to the time of surgery

Quantity of patients	Assessment	Mean±SD value time of surgery	P-value
40	With complication	60±10.5	<0.001
260	Without complication	37.3±4.5	

Table 7- Quality of life assessment of patients in this study

Items	Before		After		P-value
Variable	MEAN	SD	MEAN	SD	
Psychological health	3.11	0.98	3.87	0.87	0.55
Social	2.98	0.66	3.56	0.77	0.01

relations					
Depression	3.99	0.65	2.76	0.53	0.05
quality of life	2.83	0.73	4.1	0.44	0.001
Timid	3.77	0.45	2.92	0.68	0.0034
tension	4.1	0.43	2.82	0.2	0.0098

IV. DISCUSSION

A retrospective study was conducted for the purpose of a comprehensive evaluation of the various systemic factors of Iraqi patients receiving dental implants.

Study showed 220 participants were included, and the average age ranged between 40-60 years with a mean value and standard deviation of 48±7.8.

In this study, patients were distributed according to gender for 130 male patients with 59.09%, females for 90 patients with 40.09, and in this study, 40 smokers with 18.18% were found.

In this study distribution of Lost follow-up implants and Failed implants of the patients' study for four years, 300 implants

The overall total of failed implants was for 15, as shown in Table 2.

The study revealed to length/width of dental implants in patients, 285 implants, and the difference in the number of implants varies depending on the condition of the person's bone. Bone length, width, and bone quality.

The entire procedure can be completed in just one day and is usually completed within 2-4 hours.

For the upper jaw, treatments are performed with prosthetics over implants to stabilize fixed teeth with abutment ranging from four to eight implants. The number of implants will depend on several factors: the number of teeth to be replaced, whether the patient is large or small, the amount of bone available the type of prosthesis.

Figure 1 shows the quantity of implants in the upper and lower jaw, and it was the most prevalent in this study for the lower how with 119 implants at the first molar, but for the upper jaw, it distributed to 50 implants

In this study, the quality of life of patients before and after surgery was identified, and statistical values related to the distributed questionnaire were extracted.

A questionnaire was made to assess the impact of oral health on the quality of life of dental implant patients, and the results of this study are limited to the subjective component of patients when answering the applied tool and the socio-demographic characteristics of the sample, which is not representative of the general population as it constitutes an academic contribution that contributes to understanding the factors involved in The multifactorial character of the etiology of oral disease.

It can be seen after extensive bibliographic search in the databases (Pubmed and Bireme) that there are a large number of studies related to dental implants and quality of life, and there are few who relate this variable in dental implant patients compared to the vast majority of studies linking it to the presence of caries, such as a study conducted by Batista et al., 2014, who observed in a group of 386 workers in Brazil that the presence of dental caries and the resulting tooth loss, made the population more likely to affect the quality of life.

V. CONCLUSION

This was aimed at an assessment of the various systemic factors of Iraqi patients receiving dental implants.

Where our study revealed the presence of complications of 40 patients, and this proves the success of dental implants as a surgical operation in relation to our study.

The effect of dental implants on the quality of life of patients was also identified, and a statistically significant relationship was found at a p-value < 0.05

It was found that the scale has the honesty of good internal and structural consistency among patients, in addition to the presence of positive levels commensurate with the quality of life.

The results showed that all indicators of stability using Cronbach's alpha coefficients and the half-split method were high.

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