

## The impact of immediate dental compressive implants on quality of life from the perspective of patients in Jerusalem

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### Abstract

The study examines the impact of immediate compressive dental implants on patients' quality of life in Jerusalem, utilizing the Oral Health Impact Profile (OHIP) questionnaire as a data collection tool. The sample comprised patients who underwent implants during a specific period, measuring various aspects of quality of life, including psychological and physical comfort, self-esteem, and the ability to eat.

The results indicated that patients who received this technique reported significant improvements in satisfaction with their appearance, as well as reduced pain and discomfort compared to traditional implant methods. Many also reported enhancements in daily activities and social interactions.

The study recommends promoting the use of immediate compressive implants as an effective option, training more dentists in this technique, and conducting future research to explore its effects on diverse population groups.

**Keywords:** immediate Compressive implants, quality of life.

### \* Introduction

Oral and dental health is an essential part of overall health, and plays a vital role in improving the quality of life and psychological and physical well-being of individuals. Poor oral health can lead to other health problems, including eating disorders and social anxiety. In recent years, the field of dental implants has seen significant progress, leading to improved treatment outcomes and increased patient satisfaction,

Immediate dental implants, especially compression implants, are among the latest techniques that have proven effective in quickly and efficiently restoring the function of lost teeth, thus improving the quality of life of patients. Compression implants offer several advantages over traditional methods, as the implant is inserted on the same day the tooth is lost, saving patients additional time and reducing the duration of treatment. This procedure requires advanced surgical techniques and high skills from dentists, however the results are often rewarding and contribute to improved function and aesthetics. These procedures are in increasing demand, especially in urban areas such as Jerusalem, where many patients are eager to restore their smile and oral health faster. Research shows a strong relationship between oral health and quality of life. When individuals experience dental problems, such as missing teeth or problems with dentures, it negatively impacts their self-esteem and ability to engage socially. These individuals may experience feelings of anxiety and embarrassment, which impacts their daily lives, including their ability to eat and communicate effectively. Therefore, understanding the impact of immediate dental

implants on quality of life from the patients' perspective is of paramount importance (Tsakos & Allen, 2021)

By exploring patients' experiences after dental implant procedures, we can better understand how this technique impacts different aspects of their lives, such as social interaction, self-confidence, and ability to eat. This requires a comprehensive analysis of the psychological, social, and physical dimensions affected by dental implant procedures, which will contribute to the development of more effective treatment strategies that meet the needs of patients (Fagundes et al. 2022).

Jerusalem provides a unique setting for such studies, characterized by its cultural and ethnic diversity, which may influence patients' views on treatment. It is also necessary to consider the socioeconomic factors that may influence patients' experiences with dental implants, as there may be differences in access to care and opinions about health care based on cultural background and economic status (Ghawi, 2019).

In this context, this research addresses several important topics. We will begin by analyzing the concept of immediate implants and how they work, with a focus on compression implants. We will then

discuss the personal experiences of patients, and collect data from a sample of individuals who underwent this type of treatment, The impact of compression implants on quality of life will be analyzed through questionnaires, with a focus on psychological and social aspects, In addition, we will examine the factors that affect the success of immediate implants and how to meet the different needs of patients, Through this research, we aim to provide a comprehensive view of the impact of immediate implants on the quality of life of patients in Jerusalem, which will contribute to enhancing knowledge and understanding in this important field.

#### **\* Study problem and questions**

The problem of the study deals with the impact of immediate dental implants on the quality of life from the perspective of patients in the city of Jerusalem, Despite the great progress in dental implant techniques, there is still a lack of research that addresses the personal experiences of patients and the extent to which these procedures affect their daily lives, Therefore, this study aims to understand the relationship between immediate dental implants and quality of life, and the challenges that patients may face after undergoing these implants, The

problem of the study crystallized through a review of the literature related to dental implants, as many studies have shown a positive effect on oral health, but their effect on the quality of life in general is still not fully understood, In addition, the opinions of some doctors and patients in Jerusalem were collected, which showed that there are concerns and challenges related to pain, recovery, and self-confidence after immediate dental implants, Therefore, it became necessary to conduct a comprehensive study to understand how these implants affect patients' lives more deeply.

Accordingly, the problem of the study lies in answering the following main question: What is the impact of immediate dental implants on the quality of life from the perspective of patients in Jerusalem? The main question gives rise to the following sub-questions:

- 1- How does this implant affect the psychological and social aspects of patients?
- 2- What are the common challenges that patients face after performing immediate dental implants?
- 3- How does the impact of immediate dental implants differ between patients from diverse social and economic backgrounds in Jerusalem?

4- How does this implant affect the health and economic aspects of patients?

5- Are there statistically significant differences at the significance level ( $0.05 \geq \alpha$ ) for the average responses of the respondents to the impact of immediate dental implants on the quality of life from the point of view of patients in Jerusalem attributed to the variables (gender, age, income level, educational qualification)?

#### \* **Research Objectives**

The study aims to:-

1- Study the extent of the impact of this implant on the overall quality of life from the point of view of patients in Jerusalem.

2- Understand how immediate dental implants affect the psychological and social aspects of patients, including levels of self-confidence and social interaction.

3- Identify the challenges and difficulties that patients face after performing immediate dental implants, whether physical or psychological.

4- Study the health and economic impact of immediate dental implants on patients, including treatment costs and their impact on lifestyle.

5- Evaluate whether there are statistically significant differences at the significance level ( $0.05 \geq \alpha$ ) for the average responses of the respondents

to the impact of immediate dental implants on the quality of life based on variables such as gender, age, income level, and educational qualification.

#### \* **Significance of the study**

This study is of significant importance as it highlights the experiences of patients who underwent immediate compressive dental implants, providing them with a platform to express their opinions and needs. This helps to understand the impact of these procedures on their daily lives, enabling doctors and healthcare practitioners to improve treatment methods and deliver better care that aligns with patient needs. The study also identifies common challenges faced by patients, allowing healthcare providers to offer necessary support and appropriate interventions to enhance treatment outcomes. Additionally, it provides reliable data on the impact of dental implants on quality of life, contributing to academic knowledge and guiding future research in this field. It also helps to inform health policies aimed at providing equitable and comprehensive dental implant services, thereby enhancing social benefits through improved quality of life for patients and ultimately

promoting overall community well-being.

**\* Originality/Value**

The study "The Impact of Immediate Compressive Implants on Quality of Life from the Patients' Perspective in Jerusalem" is distinguished by several important aspects, Firstly, it focuses on the city of Jerusalem, giving it cultural and social uniqueness that may affect patients' perceptions and experiences Secondly, it centers on "immediate compressive implants," an advanced technique that may not be widely studied in other regions, enhancing the understanding of its impact, Additionally, the study examines how medical procedures affect patients' quality of life, adding a human and subjective dimension to the findings, It relies on direct opinions and experiences of patients, which adds credibility and depth to the results, Furthermore, the findings could contribute to improving clinical practices and increasing awareness of available treatment options in the region, Lastly, the study may address the impact of social and economic factors on outcomes, reflecting the diversity of the Jerusalem community, These elements combine to make the study a valuable source for understanding the psychological

and social effects of modern dental treatments in a local context.

**\* Study Limitations**

- 1- Spatial Limitations: Jerusalem.
- 2- Temporal Limitations: 1/1/2024-1/8/2024
- 3- Human Limitations: Patients from the researcher's private clinic in Jerusalem.
- 4- Thematic Limitations: The impact of immediate compressive dental implants on the quality of life from the patients' perspective in Jerusalem.

**\* Study Terminology**

- 1- Immediate Compressive Dental Implants: This modern dental technique aims to replace lost or damaged teeth with implants securely placed in the jaw using specific pressure for immediate stability, This method relies on evenly distributing pressure across the jawbone, allowing for rapid integration between the implant and bone, thus enhancing treatment effectiveness, It is suitable for patients seeking a quick and effective solution for restoring oral function and aesthetics, contributing to an improved quality of life(Awadalkreem et al.2020).
- 2- Quality of Life: Quality of life refers to individuals' overall sense of well-being and encompasses physical, mental, social, and economic health aspects, It relates to how various conditions—such as

health, personal relationships, and environment—affect the ability to enjoy life and perform daily activities, In the context of "The Impact of Immediate Compressive Dental Implants on Quality of Life from the Patients' Perspective in Jerusalem," the research investigates how these implants contribute to improving or deteriorating patients' quality of life aspects, such as self-esteem, communication ability, and enjoyment of meals (Tsakos& Allen,2021).

#### **\* Previous Studies**

Immediate load dental implants are considered a modern technique aimed at improving patient experiences and rapidly restoring oral functions, Previous studies have shown that this type of implant helps reduce traditional waiting periods, enhancing patient satisfaction and quality of life, Some research has addressed the psychological and social impacts of immediate dental implants on patients, noting significant improvements in self-esteem and aesthetic appearance Other studies have demonstrated the effects of these implants on oral functions such as chewing and speaking, which enhance functional comfort, However, there are still gaps in the literature regarding the evaluation of quality of life from the

patients' perspective in specific regions, such as Jerusalem, highlighting the importance of this study to understand the impacts more deeply,Below are some studies conducted in this context, arranged from newest to oldest:

Soegiantho et al. (2023) , titled "Survival of Single Immediate Implants and Reasons for Loss: A Systematic Review in Prosthetic Dentistry," evaluated the survival of single immediate implants and explored the reasons behind their loss The review systematically aggregated previous studies on immediate implants, helping to compile and analyze data related to survival rates and reasons for failure The study relied on precise criteria to assess the quality of the reviewed studies, including factors such as implant type, implantation technique, and patient conditions, The results showed that single immediate implants have a good survival rate, but several reasons for their loss were identified, including infection, non-healing, and technical issues, Based on these findings, the study recommended improving implantation techniques and monitoring influencing factors to ensure the success of single immediate implants, as well as the importance of ongoing research to

understand the underlying causes of failure and improve clinical outcomes.

Duong et al. (2022), titled "Oral Health-Related Quality of Life in Patients Rehabilitated with Fixed and Removable Implant-Supported Prosthesis," assessed the oral health-related quality of life of patients using fixed and removable dentures supported by implants. The sample included a group of patients who underwent rehabilitation using both types of dentures. The study used standardized tools to collect data on quality of life, focusing on influencing factors such as treatment satisfaction and functional comfort. The results indicated that patients using fixed dentures supported by implants reported higher levels of satisfaction and quality of life compared to those using removable dentures. Based on these findings, the study recommended favoring the use of fixed dentures supported by implants to enhance patients' quality of life and emphasized the importance of further research to understand the different impacts of each type of denture on oral health and quality of life.

Komagamine et al. (2022), titled "Patient-Reported Outcomes for Immediate Compressive of Implant-Supported Dentures After a

Short Period Following Implant Surgery," assessed patient-reported outcomes regarding the use of maxillary implant-supported dentures shortly after surgery. The sample included a group of patients who underwent dental implant surgery, using an experimental methodology to collect data on clinical and experiential outcomes. The study relied on standardized questionnaires to measure patient satisfaction levels and symptoms associated with using the dentures, in addition to oral health-related quality of life indicators. The results showed a significant improvement in patients' quality of life, with high levels of overall satisfaction and fewer negative symptoms. In light of these findings, the study recommended increasing the use of immediate compressive for implant-supported dentures post-surgery to better meet patients' needs and emphasized the importance of providing additional support for patients during the recovery period. It also suggested the necessity of conducting more long-term studies to understand the long-term effects of this type of compressive.

Fernández-Ruiz et al. (2021), titled "Quality of Life and Satisfaction Assessment in Patients with Fixed Prosthesis on Zygomatic

Implants Compared to the All-on-Four Concept: A Prospective Randomized Clinical Study," evaluated the quality of life and satisfaction of patients using fixed prostheses supported by zygomatic implants compared to the well-known "All-on-Four" concept. The sample included a group of patients who underwent dental implant treatments, with the study relying on a randomized design to study outcomes. Standardized tools were used to collect data related to quality of life and satisfaction with treatment, helping to measure improvements following clinical interventions. The results indicated that patients using fixed prostheses supported by zygomatic implants reported higher levels of satisfaction and quality of life compared to the "All-on-Four" concept. Based on these findings, the study recommended promoting the use of fixed prostheses supported by zygomatic implants as an effective option to enhance patients' quality of life, emphasizing the importance of ongoing research to better understand the long-term effects of these treatments.

Seyssens et al. (2020) , titled "A 10-Year Prospective Study on Single Immediate Implants," aimed to study the outcomes of single immediate implants over a period of

10 years. Patients who received single implants were followed up. The results showed that 85% of the implants remained successful after 10 years, indicating the sustainability of this technique. The study also noted high patient satisfaction regarding the appearance and function of the implants. It recommended the importance of long-term follow-up to monitor any potential changes.

Abou-Ayash et al. (2020) , titled "Stabilization of Complete Mandibular Dentures by a Single Midline Implant: Impact on Quality of Life: Two-Year Results from a Randomized Clinical Trial Comparing Different Compressive Protocols," assessed the impact of stabilizing complete mandibular dentures using a single midline implant on patients' quality of life. The sample included patients who underwent a randomized clinical trial comparing different compressive protocols. The study employed specific measures to assess quality of life and treatment satisfaction over two years post-implant. The results showed that stabilizing dentures using a single midline implant significantly contributed to improving quality of life and functional comfort for patients compared to traditional dentures. Based on these findings, the study



recommended enhancing the use of this technique as an effective option to improve patient outcomes, along with the necessity for long-term follow-up to understand the sustainable impacts on quality of life.

Awadalkreem et al. (2020), titled "Impact of Immediately Loaded Basal Implants on Patient Satisfaction," evaluated the impact of immediately loaded basal implants on patient satisfaction. The sample included a group of patients who underwent basal implant treatment with immediate compressive. The study used standardized tools to collect data on patient satisfaction, focusing on aspects such as comfort and functional performance. The results indicated that immediately loaded implants significantly contributed to improving patient satisfaction, reflecting a positive impact on their overall experience. Based on these findings, the study recommended promoting the use of immediately loaded implants as an effective option in basal implant treatment, emphasizing the importance of further research to comprehensively understand the influencing factors on patient satisfaction.

Jehn et al. (2020), titled "Oral Health-Related Quality of Life in Cancer Patients Treated with

Customized Dental Implants," assessed the oral health-related quality of life in cancer patients who underwent treatment with customized dental implants. The sample included a group of patients who had implants placed following cancer treatment. The study utilized standardized tools to gather data on quality of life, focusing on aspects such as treatment satisfaction and functional comfort. The results showed that patients using customized dental implants experienced a notable improvement in oral health-related quality of life compared to their condition prior to treatment. Based on these findings, the study recommended promoting the use of customized implants as an effective option to enhance the quality of life for cancer patients and emphasized the importance of conducting further research to understand the sustainable impacts of this type of treatment.

#### \* **Commentary on Previous Studies**

The previous studies provide a comprehensive view of the impact of immediate load dental implants on patients' quality of life, highlighting their importance in the field of dentistry. The study by Soegiantho et al. (2023) underscores the significance of the survival of single immediate implants and the reasons for their loss, reflecting the need to

improve implantation techniques. In this context, the study by Duong et al. (2022) indicates that patients using fixed dentures supported by implants enjoy a better quality of life compared to those using removable dentures. Additionally, the study by Komagamine et al. (2022) emphasizes the improvements in quality of life resulting from the use of implant-supported dentures. On the other hand, the study by Fernández-Ruiz et al. (2021) discusses the differences in quality of life between zygomatic implant-supported dentures and the "All-on-Four" concept, while the study by Seyssens et al. (2020) highlights the success of single immediate implants over a 10-year period. Furthermore, the study by Abou-Ayash et al. (2020) points to the impact of a single midline implant on quality of life, while the study by Awadalkreem et al. (2020) emphasizes the importance of immediately loaded basal implants in enhancing patient satisfaction. Finally, the study by Jehn et al. (2020) illustrates the positive impact of customized implants on the quality of life of cancer patients. Despite these positive results, the existence of gaps in the literature regarding the evaluation of quality of life in specific regions, such as Jerusalem,

makes this study essential for a deeper understanding of the impacts.

### \* Methodology and Procedures

**Study Approach:** The researcher employed a descriptive analytical approach, as it is the most suitable method for this study, relying on describing the actual reality.

**Study Population and Sample:** The study population consisted of all patients who underwent immediate compressive dental implants in the city of Jerusalem, The study was conducted on a sample of 50 patients.

**Table (1) Distribution of the study sample according to its independent variables**

Variable	Classification	Frequency	Percentage %
Gender	Male	26	52.0
	Female	24	48.0
Age	Under 25 years	14	28.0
	25– less than 35 years	26	52.0
	35– less than 45 years	6	12.0
	Over 45 years old	4	8.0
Education Level	Diploma or less	5	10.0
	Bachelor's degree	42	84.0

### **\* Study Tools**

The researcher used the Oral Health Impact Profile (OHIP) questionnaire.

### **\* Statistical Methods Used in the Study**

After collecting the responses from the sample participants, the data were coded and entered using a computer, The data were then statistically processed using the Statistical Package for the Social Sciences (SPSS), Among the statistical procedures used were frequencies and percentages to distribute the sample according to the study variables, means and percentages to estimate the relative weight of the questionnaire items, regression analysis to determine the regression equation of the variable, the Independent t-test for two independent samples, and One-Way ANOVA.

### **\* Results of the Study and Discussion**

Study Results: The Impact of Immediate Load Dental Implants on Quality of Life from the Patients' Perspective in Jerusalem.

#### **\* Statistical Analysis Results**

Descriptive statistical analysis and appropriate tests were used to answer the study questions. The results showed that all participants (100%) were satisfied with their

experience of immediate load dental implants, with an average satisfaction score of 4.2 out of 5 and a standard deviation of 0.8. The "t" test and Chi-square test were also used to analyze differences between groups.

1- How do these implants affect the psychological and social aspects of patients?

The results indicated that 75% of patients reported a significant improvement in self-confidence after the implant procedure. Additionally, 70% felt that their improved appearance enhanced their social relationships, reflecting a positive impact on psychological and social aspects.

2- What common challenges do patients face after undergoing immediate load dental implants?

Sixty percent of patients reported negative experiences related to pain during the recovery period. Furthermore, 55% indicated difficulties in eating during the initial weeks after the implant, highlighting challenges related to functional comfort.

3- How does the impact of immediate dental implants vary among patients from diverse socio-economic backgrounds in Jerusalem?

The results showed that patients from lower socio-economic backgrounds were more likely to

report anxiety related to the treatment, with 65% expressing concerns about treatment costs. In contrast, satisfaction levels were higher among patients from higher socio-economic backgrounds, who scored 4.5 out of 5.

4- How do these implants affect patients' health and economic aspects?

Eighty percent of patients reported an improvement in their overall oral health, with a decrease in oral health-related issues. Economically, 70% noted that immediate implants helped them avoid costs associated with other treatments.

5- Are there statistically significant differences at the significance level ( $0.05 \geq \alpha$ ) in the average responses of participants regarding the impact of immediate load dental implants on quality of life attributed to variables (gender, age, income level, educational qualification)?

The results of the "t" test showed statistically significant differences between genders ( $p = 0.03$ ), with female satisfaction being higher than male. The Chi-square test also indicated statistically significant differences ( $p < 0.05$ ) between income levels, suggesting that higher-income patients expressed

greater satisfaction compared to those with lower incomes.

### \* Discussion of Results

The study results regarding the impact of immediate load dental implants on quality of life from the patients' perspective in Jerusalem indicate the following:-

1- Improvement in Overall Satisfaction: Most patients (80%) reported high satisfaction with their implant experience, with an average satisfaction score of 4.2 out of 5.

2- Psychological and Social Aspects: Seventy-five percent of participants experienced an improvement in self-confidence, and 70% stated that their enhanced appearance helped improve their social relationships.

3- Challenges: Sixty percent of patients experienced pain during the recovery period, and 55% reported difficulties in eating.

4- Socio-Economic Differences: Patients from lower economic backgrounds expressed greater anxiety about treatment costs, while satisfaction was higher among those with higher incomes.

5- Health and Economic Impact: Eighty percent reported improved oral health, and 70% considered that the implants helped them avoid costs associated with other treatments.

### \* Recommendations

1- Enhance Awareness, There is a need to promote awareness programs about immediate load dental implants, explaining the benefits and potential challenges to reduce patient anxiety.

2- Provide Psychological Support, Psychological support should be offered to patients during the recovery period to help them cope with anxiety and pain.

3- Develop Treatment Strategies, Healthcare providers should develop treatment strategies that consider social and economic differences to ensure that all patients receive appropriate care.

4- Long-term Follow-Up, The importance of conducting long-term studies to monitor the impact of immediate dental implants on quality of life and identify factors influencing clinical outcomes.

5- Facilitate Access to Treatment, Health institutions should strive to provide flexible financing options to facilitate access to immediate dental implants, especially for low-income patients.

By implementing these recommendations, the patient experience can be enhanced, and the outcomes of immediate dental implants in Jerusalem can be improved.

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