



Implant Survival Rates in a Condensed Surgical and Prosthetic Training Program for General Practitioners in Dental Implants

Souheil Hussaini, BDS, MS,* Saul Weiner, DDS,† and Mina Ahmad, DDS‡

Today, dental implants are a predictable, successful modality for patient care.¹⁻³ They have revolutionized the treatment planning process for restorative care and eliminated the need to retain hopeless teeth. Long-term success rates of dental implants have been reported as high as 97% for single-tooth replacements and 94% for implant-supported fixed partial dentures.⁴⁻⁶ Up to this time, the surgical specialties of periodontics and oral and maxillofacial surgery have provided the majority of surgical placement of implants.⁷ They have also provided the leadership for the restorative phase as well. However, it is being recognized that the need for surgical and prosthetic treatment significantly exceeds the pool of specialists available for patient care. At the same time, many general practitioners are interested in incorporating dental implant services in their practices, but their training in dental school with regard to implantology may have been deficient. Henry predicted that in the near future general dentists will have a significant role in implant surgical placement and restoration for the patient requiring 1 to 3 implants.⁸

Purpose: The aim of this study was to evaluate the survival rates for surgical placement of dental implants in the Implant Dentistry Study Consortium (IDSC), a training program for general dentists in the UAE.

Materials: The records of the program were reviewed, and all implants placed were evaluated, and the survival and failures were identified. These records were compared with those from an experienced prosthodontist who has been trained in both the surgical and restorative phases of implant dentistry. Descriptive statistics and Kaplan-Meier survival curves were calculated. The Kaplan-Meier statistics were compared using the log-rank test.

Results: The characteristics of the population of the IDSC and the prosthodontist were similar. During the study interval, the prosthodontist had 299 implants in 145 subjects and IDSC with 217 implants in 104 subjects placed. The survival rates were 96% for the experienced prosthodontist and 93.5% for IDSC dentists. The Kaplan-Meier curves were not statistically different from each other, $P > 0.05$.

Conclusion: A closely supervised training program in dental implantology of 4 sessions, 3 day each, can provide successful surgical experiences for the program participants. (Implant Dent 2010;19:73-80)

Key Words: continuing education, implant survival rates, dental implant

There are a number of long-term training programs available, but many practitioners are reluctant to take such time out of their practices. Economic constraints exist as well. Several institutions have developed short-term implant training programs that intensely train clinicians in elementary surgical placement and restoration of dental implants, allowing the course participant to do actual clinical treatment—surgical and restorative. Their experiences, as well as reports from other implant programs, suggest that the prior experience of the participants is not critical to the program's success. Yoon *et al* reported the success rate of implant-supported restorations done by predoctoral students. The rate of success after 1 year of this closely supervised experience was 97% irrespective of the fact that surgical

placement restoration was done by novices.⁹ Kohavi *et al*¹⁰ reported a 96% success rate for 303 implants done in a postgraduate program irrespective of the experience of the dentist. Melo *et al* specifically compared the success rates of first and fourth year surgical residents in a Washington, DC hospital in implant placement. They concluded that experience was not a significant factor in the success rate. The results of these studies are comparable with those of Payant *et al* for a group of graduated Canadian dentists who received 12 months of training from an implantologist with a success rate of 91%.^{11,12}

The purposes of this article are to compare, using retrospective analysis, the rates of survival of dental implants placed by the course participants in the Implant Dentistry Study Consortium

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(IDSC) training program with those of a prosthodontist with extensive training and experience in dental implantology and to briefly describe the program.

SUBJECTS AND METHODS

The subjects included 2 groups. The first was the 217 implants placed in the IDSC training programs in the UAE in 104 consecutively treated patients from December 2001 to August 2007.

In parallel, there were 299 implants placed in the practice of the experienced prosthodontist in 145 consecutively treated patients. A data entry form was designed, which included age, gender, medical history, implant features (type, dimensions, and location), dates of placement, exposure, loading of implant, and type of augmentation process. The criteria for implant survival were based on the evidence of osseointegration and included lack of pain, mobility, peri-implant radiolucency, infections, paresthesia, or uncontrolled soft tissue infection.^{13,14} None of the patients had specific medical contraindications to treatment. An implant was regarded as failure if it had to be removed for any reason within 6 months. Any mobility or sensation (e.g. pain) was regarded as a sign of loss of osseointegration, and implant removal was indicated. Other conditions for which implant removal could be indicated included incurable soft tissue infection, persistent pain, and paresthesia. Implants that did not fail were included in the survival group. Single-tooth replacement, fixed partial dentures, overdentures, and mandibular fixed cantilever prostheses were all included in this study. Many patients had been treated in both jaws. An individual assessment of each implant site was made.

The data were collected from December 2001 through the August 2007 with all treated cases reexamined at least 2 months postoperatively and every 6 months until the August 2007. Data analysis included descriptive statistics and Kaplan-Meier estimates of implant survival. The Kaplan-Meier estimates were compared using the log-rank test at the 95% significance level.

Table 1. Patient Characteristics

Characteristic	No. Patients, n (%)	No. Implants Placed (Failed)
IDSC		
Sex		
Male	50 (48)	109 (6)
Female	54 (52)	108 (7)
Age (y)		
≤30	18 (17)	25 (2)
30–39	31 (30)	52 (4)
40–49	30 (29)	58 (4)
50–59	19 (17)	60 (1)
≥60	7 (7)	23 (2)
Prosthodontist		
Sex		
Male	65 (46)	150 (9)
Female	80 (54)	149 (2)
Age (y)		
≤30	28 (19)	35 (0)
30–39	32 (23)	47 (0)
40–49	36 (25)	88 (2)
50–59	33 (22)	75 (2)
≥60	16 (11)	54 (6)

Table 2. Implant Location, Implant Failure, and Survival as a Function of Location

Location	n (%)	Failed	Survival Rate, %
IDSC			
Maxillary			
Anterior	39 (18%)	1	97
Posterior	78 (36%)	7	91
Total	117 (54%)	8	93
Mandibular			
Anterior	23 (10%)	2	91
Posterior	77 (36%)	3	96
Total	100 (40%)	5	95
Prosthodontist			
Maxillary			
Anterior	46 (15)	0	100
Posterior	108 (36)	3	97
Total	154 (51)	3	98
Mandibular			
Anterior	22 (7)	0	100
Posterior	123 (41)	8	93
Total	145 (~49)	8	94

RESULTS

The IDSC Group

A total of 217 implants were placed in 104 patients between December 2001 and August 2007. The frequency of dental implant placement was highest in the age group 30 to 49 years old (29%–30%) followed by the age group 50 to 59 years old (17%) and below 30 years old (17%). The age range was 20 to 71 years old, and the mean age was 45 years old (Table 1, IDSC). There were nearly equal

numbers of female and male patients (48% vs 52%). Most patients (75%) were treated with 1 to 2 implants, 25% received 3 or more implants, and 1 patient received a total of 12 implants. Thirteen implants (8 implants in maxilla and 5 implants in mandible) failed, resulting in an overall implant survival of 93.5%. The 117 implants placed in the maxilla experienced a failure rate of 6.8%, and the 100 implants in the mandible experienced a 5% failure rate. In decreasing order of frequency,

Table 3. Distribution of Implant Failures Within Patients

No. Implants Placed per Patient	No. Patients	No. Patients With 1 Implant Failure	No. Patients With >1 Implant Failure
IDSC			
1	49	0	0
2	29	5	1
3	14	1	0
4	3	0	0
5	6	3	0
6≥	3	0	1*
217	104	8	2
Prosthodontist			
1	75	2	0
2	36	2	0
3	12	2	0
4	10	1	0
5	5	0	0
6≥	7	0	2†
299	145	7	2‡

* Two failed Implant from 6 implants in 1 patient.

† Two failed implants from 7 implants in 1 patient.

‡ Two failed implants from 4 implants in 1 patient.

implants were placed in the maxillary posterior, mandibular posterior, maxillary anterior, and mandibular anterior regions (Table 2, IDSC). Approximately 71% of the implants were placed in posterior regions. Sex, age, implant length did not contribute significantly to implant failure (Table 3, IDSC). Considering implant features, the most commonly used implant was BioLok followed by the Biohorizons implant, with diameter of 3.5 and 4 mm by 11.5 to 13 mm, followed by the 5-mm diameter. The 4- and 5-mm by 10- to 11.5-mm diameter implants had more failure than the others (Table 4, IDSC). Ridge augmentation was required in 107 implant sites (49%), and in most cases, the bone was from an autogenous source. The success rate of implants placed into augmented sites (93%) and the implants placed into bone that did not require augmentation (95%) were not significantly different.

The Experienced Prosthodontist Group

A total of 299 implants were placed in 145 patients between December 2001 and August 2007. The frequency of dental implant supported prosthesis was highest in the age group 40 to 49 years old (25%) followed by the age group 30 to 39 years old (23%) and 50 to 59 years old

(22%). The age range was 17 to 71 years old, and the mean age was 43.3 years old (Table 1, prosthodontist). There were 80 female (54%) and 65 male (46%) patients. Most patients (77%) were treated with 1 to 2 implants, (23%) received 3 or more implants, and 1 patient received a total of 8 implants. Eleven implants (3 implants in maxilla and 8 implants in mandible) failed, resulting in an overall survival of 96%. One hundred fifty-four implants were placed in the maxilla experienced a failure rate of 1.9% and 145 implants in the mandible had a failure rate of 6%. The frequency of location in decreasing order was mandibular posterior, maxillary posterior, maxillary anterior, and mandibular anterior (Table 2, prosthodontist). The majority of treated arches (75%) involved posterior regions. Sex, age, and implant length did not contribute significantly to implant failure (Table 3, prosthodontist). Considering implant features, the most commonly used implant was BioLok followed by the Biohorizons implant, with diameters of 3.75 and 4 mm by 11.5 to 12 mm, followed by the 3.5 and 5 mm diameters. The 4 by 11.5 to 12 mm and 5 mm diameter implants had more failure than the others (Table 4, prosthodontist). Ridge augmentation

Table 4. Implant Features

Parameter	n (mm)	Failure
IDSC		
Length		
8	7	1
9	9	1
10	49	3
11	3	0
11.5	56	3
12	26	3
13	51	1
15	13	1
16	1	0
18	2	0
Diameter		
3	3	0
3.45–3.5	64	2
3.75	4	0
4	90	5
4.5	6	0
5	45	4
6	2	1
6.5	3	1
System		
Biohorizon	35	4
BioLok	65	9
Paragon	8	0
Astra	4	0
3i	1	0
ITI	4	0
Prosthodontist		
Length		
8	3	1
9	13	1
10	32	0
11.5–12	142	8
13	80	0
15	30	1
Diameter		
3	4	0
3.45–3.5	72	0
3.7	8	0
4	118	4
4.3	2	0
4.5	3	0
4.7	8	0
5	73	4
6	6	2
6.5	5	1
System		
Biohorizon	97	6
BioLok	176	5
Paragon	19	0
Astra	4	0
Nobel Biocare	3	0

was required in 144 implant sites, and the majority used autogenous source. The success rate of implants placed

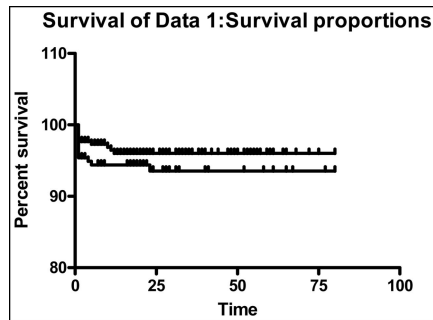


Fig. 1. Survival proportions.

into augmented sites (98%) and non-augmentation sites (96%) was similar. A total of 48% of all implants required bone grafts. A comparison of the Kaplan-Meier curves using the log-rank test showed no significant difference between both groups, $P > 0.05$ (Fig. 1).

DISCUSSION

The results of this study support the hypothesis of the IDSC program that the survival rates of implant placement in this program by the novice implantologist are comparable with that of an experienced implantologist. These objective observations parallel the subjective evaluations of the program by participants. Here, $>80\%$ rated the experiences of the program very good or excellent. The remainder found them acceptable.

The ideal education in implant dentistry provides supervised hands-on clinical training on live patients as well as didactic instruction by recognized teachers in implant dentistry. Although this program is of short duration, it is a thorough program with increasing levels of experience. General dentists in private practice who are unable to return to full-time postgraduate study can enhance their backgrounds in implant dentistry by this short training program. The main advantage of these programs is the personal exposure to the expert who sponsors the program as well as the informal, small-group learning environment.

Although this program is of short duration, it is a thorough program with increasing levels of experience. The program has four 3-day modules starting with individual single surgical placements in the maxillary premolar

and mandibular anterior regions and is completed with internal sinus lifts and particulate grafting procedures in conjunction with implant placement in the posterior area of the maxilla. These modules are distributed over a 1-year period. It is expected that between modules, the participants will continue to place more implants to the level completed.

The characteristics of the patient populations of the novice training program (IDSC) and that of the private prosthodontist were similar. Although the background experience of the novice students may not be important, the quality of instruction and the treatment protocols are significant. The instruction includes 3 to 4 lectures per module, detailed treatment planning, and close supervision by the faculty. The participants are organized in teams with rotations as surgeons, assistants, recorders, and photographers. The participant practitioners are required to document each case with a treatment plan, details of treatment, and photographs.

We believe that the key to the success of this program is the fact that it is strictly supervised and specific protocols have been developed for the program that each participant must follow in the program. These include the following.

A Treatment Plan Is Developed for Each Case

Each case is presented to the group before beginning the implant procedure, either surgical or restorative. As part of the treatment planning process, a thorough evaluation that includes clinical examination, periapical radiographs, a digital calibrated panoramic radiograph and tomograms if necessary is performed. This provides the required information to check the positions of vital anatomical structures including the maxillary sinus and the mandibular canal. Thorough medical and dental histories are obtained. Study models are made with jaw records if needed. The treatment plans are developed by the participant surgeons in consultation with the faculty and presented for discussion and review.

The Surgical Phase Is Carefully Outlined

Diagnostic and surgical templates are fabricated. The treatment plan is thoroughly discussed with the patient and all questions answered. The patient receives thorough preoperative instructions and prophylactic medications if necessary. On the day of surgery, a consent is signed and the patient changes into a clean gown (scrub suit) and brushes his/her teeth with a 0.12% chlorhexidine gel for 4 minutes after taking paracetamol (500 mg) and ibuprofen (600 mg). A rigorous operating room environment is maintained. Soft tissue procedures are done atraumatically, and the osteotomy is made with copious cold irrigation. Radiographs are obtained during the procedure to ensure correct positioning and alignment of the fixture. The implant is inserted in an isolated field, and a postoperative radiograph is taken to confirm the implant position. Postoperative instructions are given to the patient in writing and reviewed verbally. A prescription is given to the patient for pain, inflammation, and antibiotic if necessary. An icepack is provided to the patient to reduce the swelling. The doctor is available for consultation if necessary.

The Restorative Phase Follows a 2-Stage Protocol (2-5 Months After Placement)

The implants are uncovered and after soft tissue healing, a final impression is made. Jaw records are obtained and the case sent to the laboratory for fabrication of the prosthesis. After try-in and porcelain application, the final prosthesis is inserted. The soft tissues in the anterior region are developed using temporary restorations.

Maintenance and Recall Are Provided in the Prosthodontist's Office on a Regular Basis

Recall includes clinical and radiographic examinations and prophylaxis. A standardized radiograph is taken to evaluate crestal bone height. A scratchless professional cleaning is done using prophy cups and pumice around the implant-abutment neck, followed by an application of 0.8% hyaluronic acid and 0.2% chlorhexidine, subgingivally.

Reports by Yoon *et al.*,⁹ Kohavi *et al.*,¹⁰ and Melo *et al.*¹¹ parallel those reported here with similar experiences. It would thus seem that programs for the novice can be successful in a variety of venues. Development of further programs of this type would be helpful to provide implant training for the general dentist who is not able to excuse him or herself from their practices for a long period of time. The development of the IDSC program in the UAE has been welcomed to improve the level of dental care for patients as well as the knowledge base and skills of the clinicians providing oral care and treatment for the resident population.

CONCLUSION

A short-term training program in dental implantology can provide successful surgical experiences for the program participants. The success of participating dentists is based on their abilities to model the strategies of training program and apply them in similar cases. When treatment complexity exceeds a dentist's level of training and expertise, appropriate referral to an experienced implant surgeon and prosthodontist should be made.

Disclosure

The authors claim to have no financial interest in any company or any of the products mentioned in this article.

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ID Abstract Translations

GERMAN / DEUTSCH

AUTOR(EN): Souheil Hussaini, BDS, MS, Saul Weiner, DDS, Mina Ahmad, DDS.

Implantierungsüberlebensraten bei einem komprimierten chirurgischen und prothetischen Trainingsprogramm für allgemeine Fachärzte für Zahnimplantierungen

ZUSAMMENFASSUNG: Zielsetzung: Die vorliegende Studie zielte darauf ab, die Überlebensquoten für die chirurgische Setzung von Zahnimplantaten im Studienkonsortium für Implantierungszahnheilkunde (IDSC), einem Trainingsprogramm für Allgemeinzahnärzte in den Vereinigten Arabischen Emiraten, zu beurteilen. **Materialien und Methoden:** Die Aufzeichnungen zum Programm wurden geprüft und alle eingepflanzten Implantate wurden bewertet und die Überlebens- sowie Versagensquoten ermittelt. Diese

Aufzeichnungen wurden mit denen eines erfahrenen Prothetikspezialisten verglichen, der in sowohl den chirurgischen als auch den wiederherstellenden Schritten der Implantierungszahnbehandlung versiert ist. Beschreibende Statistiken und Kaplan-Meier-Kurven hinsichtlich des Implantierungserfolgs wurden berechnet. Die Kaplan-Meier-Statistiken wurden mittels Log-Rank-Test verglichen. **Ergebnisse:** Die Studiengruppen des IDSC und des Prothetik-Facharztes waren in ihren Eigenschaften gleich. Im Verlauf der Studie pflanzte der Prothetiker 145 Patienten insgesamt 299 Implantate ein, während das IDSC 217 Implantate bei 104 Patienten einsetzte. Die Überlebensraten lagen bei 96% für den erfahrenen Prothetik-Spezialisten und bei 93.5% für die Zahnärzte des IDSC. Es gab keine statistisch bedeutsame Unterscheidung zwischen den Kaplan-Meier-Kurven der einzelnen Gruppen, $P >$

0.05. **Schlussfolgerung:** Wird ein eng angeleitetes Trainingsprogramm in Zahnimplantationsheilkunde in 4 Sitzungen mit jeweils 3 pro Tag durchgeführt, kann dies zu hervorragenden erfolgreichen chirurgischen Erfahrungen für die Programmteilnehmer führen.

SCHLÜSSELWÖRTER: Weiterbildung, Implantatüberlebensraten, Zahnimplantat

SPANISH / ESPAÑOL

AUTOR(ES): Souheil Hussaini, BDS, MS, Saul Weiner, DDS, Mina Ahmad, DDS.

Tasas de supervivencia de implantes en un programa condensado de capacitación protésica y quirúrgica para practicantes generales en implantes dentales

ABSTRACTO: Propósito: El objetivo de este estudio fue evaluar las tasas de supervivencia de la colocación quirúrgica de implantes dentales en el Consorcio de Estudio de Odontología de Implantes (IDSC), un programa de capacitación para dentistas en la UAE. **Materiales y Métodos:** Se evaluaron los registros del programa y todos los implantes colocados y se identificó la supervivencia y las fallas. Estos registros se compararon con los de un protodoncista experimentado que ha recibido capacitación en las fases restaurativas y quirúrgicas de la odontología de implantes. Se calcularon estadísticas descriptivas y curvas de supervivencia de Kaplan-Meier. Las estadísticas de Kaplan-Meier se compararon usando la prueba del rango logarítmico. **Resultados:** Las características de la población del IDSC y el protodoncista fueron similares. Durante el intervalo del estudio, el protodoncista colocó 299 implantes en 145 sujetos y el IDSC con 217 implantes en 104 pacientes. Las tasas de supervivencia fueron del 96% para el protodoncista experimentado y un 93.5% para los dentistas del IDSC. Las curvas de Kaplan-Meier no fueron estadísticamente diferentes entre ellas, $P > 0.05$. **Conclusión:** Un programa de capacitación estrictamente supervisado en implantología dental de cuatro sesiones, 3 cada día, puede proporcionar experiencias quirúrgicas exitosas a los participantes en el programa.

PALABRAS CLAVES: educación continua, tasas de supervivencia del implante, implante dental

PORTUGUESE / PORTUGUÊS

AUTOR(ES): Souheil Hussaini, Bacharel em Cirurgia Dentária, Mestre em Ciência, Saul Weiner, Cirurgião-Dentista, Mina Ahmad, Cirurgiã-Dentista.

Taxas de Sobrevivência de Implante num Programa de Treinamento Cirúrgico e Protético Condensado para Clínicos Gerais em Implantes Dentários

RESUMO: Objetivo: O objetivo deste estudo era avaliar as taxas de sobrevivência para colocação cirúrgica de implantes

dentários no Consórcio de Estudo de Odontologia de Implante (Implant Dentistry Study Consortium - IDSC), um programa de treinamento para dentistas gerais nos Emirados Árabes Unidos. **Materiais e Métodos:** Os registros do programa foram revisados e todos os implantes foram avaliados e a sobrevivência e falhas foram identificadas. Esses registros foram comparados com aqueles de um protodontista experiente que foi treinado tanto na fase cirúrgica quanto na restaurativa da odontologia de implante. A estatística descritiva e as curvas de sobrevivência de Kaplan-Meier foram calculadas. A estatística de Kaplan-Meier foi comparada usando o teste log-rank. **Resultados:** As características da população do IDSC e do protodontista eram semelhantes. Durante o intervalo do estudo, o protodontista colocou 299 implantes em 145 indivíduos e o IDSC, 217 implantes em 104 indivíduos. As taxas de sobrevivência foram 96% para o protodontista experiente e 93.5% para os dentistas do IDSC. As curvas de Kaplan-Meier não foram estatisticamente diferentes uma da outra, $P > 0.05$. **Conclusão:** Um programa de treinamento estreitamente supervisionado em implantologia dentária de quatro sessões, 3 por dia, pode proporcionar experiências cirúrgicas bem-sucedidas para os participantes do programa.

PALAVRAS-CHAVE: educação continuada, taxas de sobrevivência de implante, implante dentário

RUSSIAN / РУССКИЙ

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Показатели приживаемости имплантатов при сокращенной программе обучения по хирургической имплантации и протезированию зубов для врачей общей практики

РЕЗЮМЕ: Цель: Целью данного исследования был анализ показателей приживаемости имплантатов при хирургической имплантации зубов в Учебном консорциуме по дентальной имплантологии (Implant Dentistry Study Consortium, IDSC) в рамках программы обучения стоматологов общей практики в ОАЭ. **Материалы и методы:** Были изучены записи, сделанные в ходе программы, проведена оценка состояния всех установленных имплантатов, отмечены все случаи прижившихся имплантатов и неприжившихся имплантатов. Эти данные сравнили с данными опытного стоматолога-ортопеда, прошедшего обучение по хирургическим и реставрационным аспектам имплантации зубов. Была подготовлена описательная статистика и рассчитаны кривые выживаемости по методу Каплана-Майера. Статистика по Каплану-Майеру сравнивалась с использованием логарифмического

рангового критерия. **Результаты:** Характеристики персонала IDSC и стоматолога-ортопеда были идентичными. Во время исследования стоматолог-ортопед установил 299 имплантатов 145 пациентам, а персонал IDSC — 217 имплантатов 104 пациентам. Процентный показатель приживаемости имплантатов у опытного стоматолога-ортопеда составил 96 %, а у стоматологов IDSC — 93,5%. Кривые Каплана-Майера статистически не отличались друг от друга, $P < 0,05$. **Вывод:** Программа обучения по дентальной имплантологии, проводимая под тщательным контролем и состоящая из четырех занятий, каждые 3 дня, может обеспечить успешный хирургический опыт для участников программы.

КЛЮЧЕВЫЕ СЛОВА: повышение квалификации, показатели приживаемости при имплантации зубов, зубной имплантат

TURKISH / TÜRKÇE

YAZARLAR: Souheil Hussaini, BDS, MS, Saul Weiner, DDS, Mina Ahmad, DDS.

Genel Pratisyenler için Dental İmplant Konusunda Kısa bir Cerrahi ve Protez Eğitim Programında İmplant Sağkalım Oranları

JAPANESE / 日本語

一般歯科医対象デンタルインプラント手術補綴凝縮教育プログラムでのインプラント生存率

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研究概要:

目的: 当研究目的はアラブ首長国連邦の一般歯科医向け教育プログラム、インプラント歯科学研究コンソーシアム(ID-SC)におけるデンタルインプラント埋入手術生存率評価を狙いとした。

素材と方法: プログラムの記録を検討、そして埋入したすべてのインプラントを調査し生存例ならびに失敗例を認定した。この収集記録をインプラント歯科学に関する手術ならびに修復面で研修を受け、さらに経験を積んだ補綴専門医の記録と比較した。記述統計とカプラン-マイヤー (Kaplan-Meier) 生存曲線を算出し、カプラン-マイヤー統計はログランクテストを使用して比較した。

結果: IDSC母集団と補綴専門医母集団の特性には相似点が見られた。調査期間中、補綴専門医は145名の患者に299本のインプラントを埋入し、IDSCは104名の患者に217本のインプラントを埋入した。経験豊富な補綴専門医によって埋入されたインプラント生存率は96%でIDSC歯科医によるインプラント生存率は93.5%を示した。カプラン-マイヤー曲線では双方の間に統計上差異は確認できなかった $P>0.05$ 。

結論: 毎日3回づつ セッションで構成され、しかも指導の行届いたデンタルインプラント教育プログラムは参加者に効果的な手術体験を提供する。

キーワード: 生涯教育、インプラント生存率、デンタルインプラント

ÖZET: Amaç: Bu çalışmanın amacı, Birleşik Arap Emirlikleri'nde genel diş hekimleri için bir eğitim programı olan İmplant Dentistry Study Consortium'da (IDSC – İmplant Diş Hekimliği Çalışma Konsorsiyumu) cerrahi dental implant yerleştirmede sağkalım oranlarını değerlendirmektir. **Gereç ve Yöntem:** Programın kayıtları incelenerek yerleştirilen tüm implantlar değerlendirildi ve sağkalım ile başarısızlık belirlendi. Bu kayıtlar sonra, implant diş hekimliğinin hem cerrahi ve hem de restoratif aşamalarında eğitim görmüş deneyimli bir prostodonti uzmanının kayıtları ile karşılaştırıldı. Tanımlayıcı istatistiksel veriler ve Kaplan-Meier sağkalım eğrileri hesaplandı. Kaplan-Meier istatistikleri log-rank testi kullanılarak karşılaştırıldı. **Bulgular:** IDSC ve prostodonti uzmanının tedavi ettiği popülasyonların özellikleri birbirine benzerdi. Çalışma süresinde prostodonti uzmanı 145 olguda 299 implant yerleştirirken, IDSC programı hekimleri 104 hastada 217 implant yerleştirdi. Deneyimli prostodonti uzmanı için sağkalım oranı %96 iken IDSC diş hekimleri için bu oran %93.5 idi. Kaplan-Meier eğrileri istatistiksel açıdan anlamlı şekilde farklı değildi, $P > 0.05$. **Sonuç:** Günde 3 olmak üzere dört oturumdan oluşan ve hekimlerin yakından denetildiği bir dental implantoloji eğitim programı, programa katılanlar için başarılı cerrahi deneyimleri sağlamaktadır.

ANAHTAR KELİMELELER: devam eden eğitim, implant sağkalım oranları, dental implant

CHINESE / 中国語

全科醫師牙科植體手術與贗復訓練濃縮課程的植體存活率

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摘要：

目的：本研究旨在評估在阿拉伯聯合大公國的一般牙醫訓練課程 Implant Dentistry Study Consortium (ID-SC) 的牙科植體手術置入的存活率。

資料與方法：檢閱課程的紀錄並評估所有置入的植體，確認存活與失敗的情況。將這些紀錄與接受過牙科植體學的手術與復形兩階段訓練且有經驗的贗復牙醫的紀錄做一比較。計算敘述統計以及卡普蘭 (Kaplan-Meier) 存活曲線。使用指數系列法 (log-rank test) 比較卡普蘭統計資料。

結果：IDSC 和贗復牙醫兩者的人口特性類似。在研究的期間內，贗復牙醫為 145 名受試者植入 299 顆植體，ID-SC 則為 104 名受試者植入 217 顆植體。有經驗的贗復牙醫的植體存活率為 96%，ID-SC 牙醫則為 93.5%。兩者的開普蘭曲線沒有統計上的差異 ($P>0.05$)。

結論：每天 3 堂課，合計四期的密切監督牙科植體學訓練課程，可為課程參加者提供成功的手術經驗。

關鍵字：進修教育、植體存活率、牙科植體

KOREAN / 한국어

일반 치과 임플란트 개원의를 위한 집중 수술 및 보철 훈련프로그램의 임플란트 생존률

저자: 서울 후사이니 (Souheil Hussaini), BDS, MS, 서울 와이너 (Saul Weiner), DDS, 미나 아매드 (Mina Ahmad), DDS

요약:

목적: 본 연구의 목적은 UAE의 일반 치과의를 위한 교육프로그램인 치과 임플란트 연구컨소시엄(ID-SC)에서 수술적으로 식립된 치과 임플란트의 생존률을 평가하는데 있었다.

재료 및 방법: 프로그램의 기록을 검토하고 식립된 모든 임플란트를 평가하여, 그 생존 및 실패여부를 확인하였다. 이들 기록을 임플란트의 수술 및 수복단계 모두에 대해 훈련을 받은 숙련된 치과보철전문의의 기록과 비교하였다. 또한 기술통계 및 Kaplan-Meier 생존곡선을 산출해, log-순위검정을 사용하여 Kaplan-Meier 통계량을 비교하였다.

결과: IDSC와 보철전문의들의 인구집단 특성은 서로 유사하였다. 연구기간 중, 보철전문의들은 145명의 환자에게 299개의 임플란트를 식립하였고 ID-SC는 104명의 대상자에게 217개의 임플란트를 식립하였다. 숙련된 보철전문의들이 식립한 임플란트의 생존률은 96%였고, ID-SC 치과외과가 식립한 임플란트의 생존률은 93.5% 였다. Kaplan-Meier 곡선은 각 집단간 통계적으로 유의한 차이를 보이지 않았다($p>0.05$)

결론: 3일 동안 4개 세션으로 구성되어 엄밀하게 감독되는 치과 임플란트 훈련프로그램은 프로그램 참가자들에게 성공적인 수술경험을 제공할 수 있다.

키워드: 지속교육, 임플란트 생존률, 치과 임플란트