Selected Abstracts from the International Summer School of Bioethics, Public Health and Health Management and the VIIth International Congress of Orodental Health and Management in the Black Sea Countries, which took place in Istanbul and then in Constanta from 23–30 May 2009

Sixty-five pages of abstracts from the recent congresses in Istanbul and Constanta were published in the programme for these events. Unfortunately, there is insufficient room in this edition of the journal to reproduce them all. As a result, only a small selection of edited congress abstracts of lectures, oral presentations of research and poster presentations can be published in this edition. As readers will see, they cover a wide range of health and oral health topics that relate, not only to the countries of the Black Sea, but also to Europe as a whole. It is refreshing to see the mixture of abstracts on general, as well as oral health because they give broader perspectives than those from congresses that focus solely on oral health or one aspect of, or specialty within oral health.

Why are There Survival Inequalities in Europe?
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EUROCARE-4, a collaborative study of European population-based Cancer Registries (93 population-based cancer registries in 23 European countries), recently showed that the number of people actually cured of cancer (not just surviving for at least five years after diagnosis) is rising steadily. The study compared two periods - 1988-1990 and 1997-1999 - and found that the proportion of patients estimated to be cured of lung, stomach, and colorectal cancers had increased from 6% to 8%, from 15% to 18%, and from 42% to 49%, respectively. The proportion cured is not affected by "lead time" (earlier diagnosis without improvement of life expectancy), so these trends suggest genuine progress in cancer control. However, there were still significant differences between countries in Europe. Inter-country estimates of the proportion of cured patients diagnosed in 1988-1999 varied from about 4% to 13% for lung cancer, from 9% to 30% for stomach cancer, from 25% to 49% for colon and rectum cancer, and from 55% to 73% for breast cancer. For instance, Denmark, the Czech Republic, and Poland had the lowest proportion of cured lung cancer patients (less than 5%), whereas France and Spain had the highest (more than 10%). For colorectal cancer, less than 30% were reported as cured in Poland, the Czech Republic, and Slovenia but 49% were reported as cured in France. Finland, France, Spain, and Sweden cured about 73% of breast cancer patients, whereas the Czech Republic, Poland, and Slovenia reported as cured less than 60%. For prostate cancer, the proportion of patients reported as cured is much more associated to the intensity of PSA testing activity than to the efficacy of treatments. France led the way with more than 60% of men cured, whereas only 14% were cured in Denmark. This difference was largely due to cases diagnosed earlier through the PSA test, and many of these prostate cancers would not have killed and might not even given rise to any symptoms. Indeed, prostate cancer mortality is no higher in Denmark than elsewhere in Northern Europe. For breast cancer, results showed a gap between Poland, the Czech Republic, and Slovenia and more western European countries of about 10%. Part of this difference has been attributed to the introduction of breast cancer screening from the mid-1990s in several western European countries. For all cancers combined, the wide range in the proportion of patients cured in the participating countries - ranging from 21% (Poland) to 47% (Iceland) in men, and 38% (Poland) to 59% (France and Finland) in women - also depends upon the varying frequency across Europe of the different cancers. This proportion is therefore also an indicator of Europe-wide variations in cancer control, because it reflects progress in early diagnosis and treatment, as well as success in the prevention of the most fatal cancers. A further reason for survival difference, however, is the over-diagnosis that follows the introduction of screening programmes. Disentangling these different causes of survival inequalities is essential for the development of effective national cancer control plans.

Cancer Control in Europe: The "Eurochip" Projects

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Cancer affects around 3.2 million Europeans each year, the most common forms of the disease being lung, colorectal, and female breast cancer. Due to the ageing population in Europe, cancer incidence cases are expected to increase thus constituting a major public health issue for Europe. Cancer prevalence, the measure of living persons with a past cancer diagnosis, grows with incidence and with the percentage of survival. In Europe, we can estimate a total of prevalent cancer cases in 2002 of nearly 14 million. The European Commission subsidised various projects in order to define a list of health indicators to be collected in all Member States (MSs). More information is available on cancer than other diseases, thanks to a long-established tradition of cancer registration in the majority of MSs. A list of cancer health indicators was developed by the EUROCHIP-1 project. These indicators show that the picture of cancer in Europe shows large regional inequalities in incidence, survival and mortality, reflecting the difficulties of European MSs in modifying their health systems to reduce the risk of cancer, improve control, and bring the benefits of research results to all citizens and patients. EUROCHIP-2 activated specific studies in the majority of EU MSs, focusing on European cancer health inequalities. EUROCHIP-2 promoted a discussion within the network on cancer control priorities and provided feedback and reports covering the following key points for European Cancer Control Policies:

- Cancer control needs an integrated cancer information system in all MSs and cancer registries are the heart of this system.
- Primary prevention is no longer only a high priority of wealthy countries, but has become one for all European countries. Eastern European countries have to promote campaigns against tobacco based on the experience of other European countries and pay attention to increasing trends in male cancer mortality. Attention to healthy diet and physical activity should be promoted in all EU countries.
- Organised screening programmes (for cervical, colorectal, and female breast cancers) have to be subsidised and implemented in all MSs, first of all in Eastern Europe.
- Cancer prevalence is dramatically increasing. Hence:
  - The needs of cancer patients and prevalent cancer patients (especially elderly patients) are increasing. For this reason, it is necessary to have full knowledge of the variation of health services demand as a function of cancer type, patient age, and rehabilitation requirements. Once the demand for services is accurately assessed, services can be provided rationally according to available resources.
  - The demand for resources to follow up cancer patients, and identify and treat cancer recurrences is increasing. While this is happening, new knowledge is being acquired by genetic research and the reality of cancer is changing. A list of a few major killer diseases has evolved into a long list of different rare diseases, each requiring a specific treatment. These are the problems that an integrated and effective cancer control policy for Europe has to face.

The mandate of the EUROCHIP-3 is to promote specific actions to reduce cancer inequalities, disseminate best practices of cancer control, and suggest new strategies to reduce costs, thereby helping to improve access to cancer care for EU citizens.

Priorities in Primary Prevention of Cancer

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In most countries, the first priority is still tobacco, which is responsible of 20 to 30 % of cancers, mostly lung and upper aero-digestive tract cancers, but also pancreatic, stomach, bladder, kidney, and cervical. Alcoholic beverages multiply the effect of tobacco in the oesophagus, larynx, pharynx, and mouth. Alcohol, moreover, increases the risk of breast and liver cancer. In affluent countries, the second priority is obesity, associated with cancer of the breast, endometrium, colon, gallbladder, adenocarcinoma of the lower third of the oesophagus, and, most likely, aggressive prostatic cancer. Sedentary lifestyle, a major determinant of obesity, is independently associated with breast, colorectal, and probably other cancers. The frequent consumption of red and processed meat is specifically associated with stomach and large bowel cancers, but the Western diet, hypercaloric and hyperproteic, mostly based on animal food, is likely to be an

influencing factor in the occurrence of several other "Western" cancers. There is increasing evidence, moreover, that obesity, sedentary life style, and the Western diet pattern are also major determinants of cancer progression. A third major factor, infection, is a causal factor for several cancers, such as cervical, penis and oropharyngeal cancer (human papilloma virus), liver cancer (hepatitis B and C), stomach cancer (helicobacter pylori), non-Hodgkin lymphoma, including endemic Burkitt lymphoma (EBV), nasopharyngeal cancer (EBV), urinary bladder epidermoid carcinoma (schistosoma haematobium), biliary tract cholangiocarcinoma (clonorchis sinensis and opistorchis viverrini) and Kaposi sarcoma (human herpes virus type 8), particularly important in low-income countries, where the proportion of cancer deaths attributable to infectious agents may be in the order of 25%. Various other pathologic conditions associated with chronic inflammations are also linked with cancers in several organs through the production of paracrine growth factors that regulate cell proliferation and the excessive formation of reactive oxygen and nitrogen molecules that are potentially damaging to DNA. Further carcinogenic factors include occupational, environmental and dietary carcinogens, as well as medical and environmental radiation. Worldwide, it has been estimated that about 50% of total cancer incidence could theoretically be prevented through sustainable preventive actions directed to known causal factors. Both governments and individual citizens have the responsibility to implement these actions.

Innovative Approaches in Health Promotion at a European Level

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Obesity is one of the major health challenges worldwide and it is currently considered as a pandemic. Data on the current situation on obesity in Europe suggest that the number of obese people has tripled over the last 20 years, with a current prevalence of 130 million obese and approximately 400 million overweight people who are living in Europe today. A series of innovative approaches have started to be developed at a European Union (EU) level in order to promote and improve health and especially to counteract obesity. The aims of these projects are to gain an insight into the problems of obesity and to understand and improve people's health behaviours in general and in particular to increase the long-term consumption of fruit and vegetables among children and to foster healthy habits that continue into adulthood. The projects targeted both the schoolchildren and their families, as well as the general European population. Encouraging health promotion actions have also been implemented at national level in many countries. Experience shows that initiatives at a local level play a central role when addressing the problems of disadvantaged groups, suggesting the importance of creating partnerships to counteract obesity. The projects that have been implemented at local level are divided into three categories: those dealing with nutrition (projects developed in Belgium, England, Germany, Netherlands, and Scotland), others targeting physical activity (Austria and the Netherlands) and others which were a combination of these two approaches (Austria, England, Ireland, the Netherlands, Norway, Romania, Scotland, and Spain).

Community-based health promotion efforts are one of the strategies that can be set up to address health issues among groups at local level. These approaches show the importance of involving vulnerable communities during the development, implementation, and evaluation of a project. By approaching and engaging vulnerable groups directly, they are more likely to be willing to change their behavioural patterns towards healthier ones. The information collected from these innovative and promising actions at European level represents a source of ideas and inspiration for practitioners and policy makers on how to manage the problem of obesity and improve health equity at local, national and European level.

Mandatory Vaccination Programmes—Ethical Issues

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Technically speaking, vaccines represent one of the miracles of modern science. Claimed to be responsible for reducing morbidity and mortality from several serious diseases, vaccines have made deep and sometimes irreversible changes in global public health. Generally regarded as very safe and effective, vaccines are also considered to be an efficient and cost-effective way of preventing disease. Yet, despite their brilliant medical successes, vaccines have always been controversial. Concerns about safety and the uncontrollable effects of vaccines, about disturbing the natural order, about

compelling individuals to be vaccinated for the public good and the injustice of uneven access to the benefits of vaccines have been interwoven throughout the history of vaccines and remain controversial today. Such controversies, and the scientific complexities and successes that fuel, them raise considerable ethical issues of both the content and implementation of collective immunisation programmes. In the main, moral considerations and legal instruments support state health authorities and justify their actions in vaccinating people as utilitarianism. However, when discussed during the Nuremberg trials after the Second World War, the utilitarian rationale for forced medical interventions was considered to be fundamentally ethically corrupt. Utilitarianism, which suggests that the state can force a minority to sacrifice their well being for the majority, cannot be ethically used by doctors or scientists to force medical interventions that can injure or kill individuals without their informed consent. In the case of one-size-fits-all forced vaccination policies, the parents of children who are genetically vulnerable to vaccine-induced injury and death are being forced to kill or injure their children without their informed consent. Seven principles that may guide reflection and debate are discussed in this presentation. Debate about these principles may help to make moral conflicts more explicit and open up the possibility of resolution. It is argued that analysis and discussion of the ethical issues should be part of any justification of collective vaccination programmes.

Medical Technologies Assessment: Decision Support in the Health Field

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Medical technology is a term that embraces a variety of activities. The term "medical technology assessment" denotes any process of examining and reporting properties of a medical technology used in health care, such as efficacy, feasibility, cost-effectiveness, indications for use, as well as social, economic, and ethical consequences. A comprehensive assessment of a medical technology, after evaluating its immediate effects, may also include an appraisal of problems, capital expenditure for equipment and buildings, possible consequences for the health insurance and social security systems.

Health technologies can be classified taking into account their material nature (drugs, equipment, medical supplies, medical and surgical procedures, care-support systems, organisational and management systems), scope (screening, diagnosis, treatment, recovery) and taking into account the dissemination stage (early, in laboratory, clinical investigations in humans, recognition, utility, out-of-date, abandoned technology). Medical technologies assessment is a multidisciplinary activity. In order to accomplish the assessment and produce reports on the technology that is to be investigated, experts from different fields of activity are needed. They include: physicians, nurses, medical technicians, radiologists, engineers, laboratory physicians, researchers, sociologists, lawyers, etc. The main characteristics of the process of assessing medical technologies are accurate and clear descriptions of the issue, the application of an explicit methodology, wide analysis of not only costs, but also efficiency and safety, assessment transparency and reporting. Health technology assessment can provide a unique input into the decision-making processes of the health system. In accordance with its broad concept of technology, its principles and scope can be applied in order to assess the potential consequences not only of medical interventions but also of organisational interventions, and even of health care reform, since the latter can be considered an intervention in the health system. The thorough assessment of the potential effects on health, and of the consequences for the health system, the economy and the society in which a technology is to be introduced or excluded, the acceleration or slowing down of its diffusion, or of the different options for reform, is what health technology assessment can offer to decision-makers. To fulfil this task properly, evidence from different research traditions will have to be considered in any assessment.

Airborne Microbial Contamination in Dental Practices in Iasi

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During dental treatment, microbial aerosols are generated by the high-speed handpiece, ultrasonic scaler, or water/air syringe, all of which represent an important source of contamination.

Aim: The aim of this study was to assess airborne microbial contamination during clinical activity in a dental practice, in order to evaluate the risk of infection for patients and dental staff.

Materials and methods: Ninety air samples were collected at a random sample of 15 dental practices in Iasi at the beginning of the working day and after four hours of clinical activity. Each time, a set of three culture medium plates was exposed for 15 minutes at two sites in the clinical area of each practice. The air samples were tested microbiologically at the Laboratory of Microbiology at the Institute of Public Health, Iasi. The following bacteriological indicators were used: total number of mesophilic microorganisms - TNMG (CFU/m3), *â Haemolytic Streptococci* (CFU/m3), *Staphylococcus aureus* (CFU/m3) and *Fungus* (CFU/m3). The bacteriological results were correlated with the clinical activities that had taken place. The resulting data were statistically analysed using the statistical software program SPSS Version 15.0. ($p<0.05$).

Results: The mean value for the TNMG in the air was 129 CFU/m3 at the beginning of the day and 319.1 CFU/m3 after four hours of clinical activity. The mean value of TNMG was twice as high in dental practices in which ultrasonic scaling was performed (430.3 CFU/m3 and 228.3 CFU/m3 respectively). For *Fungus* counts, the values were twice as high after clinical activity (230.7 CFU/m3 and 109.0 CFU/m3 respectively). *Coagulase-positive Staphylococcus* was isolated in six air samples of the 90 samples (6.6%).

Conclusion: The results demonstrate the higher air contamination after dental treatments as compared to the levels for the beginning of the working day. Ultrasonic scaling is one of the most air-contaminating dental treatment procedures. Effective measures and international/national standards are necessary in order to control air contamination in dental offices and thus decrease the risk of infection for the dental staff and patients.

Trends in the Financial Reform of Health Systems in Euirope

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The need to improve funding mechanisms within the health sector is continuously growing, as a result of a need for the introduction of new technologies and treatments, increasing patient demands, and scarcity of resources. Most European health care systems are facing the same common problems in delivering health care services. These are: poor definition of effective outcomes, provision of inappropriate care, unclear definition of health benefits, great variations in clinical practice, lack of patient safety, etc. In many countries, the reform of health care reimbursement systems involves an emphasis on payment according to the results of health care services that have been provided. In order to apply such an approach, there are some prerequisites. These are: understanding the importance of the health care outcome measurements, development of tools and indicators in order to measure these outcomes, understanding the role of financial incentives in encouraging better outcomes, development of mechanisms to pay for performance. In the design and implementation of new payment reforms, there is a move from a structure (inputs) and process approach to one of outcomes (results). The incentives used to introduce new payment mechanisms involve targeting not only the providers of care (ambulatory providers, hospitals etc.), but also the clinical specialists who are providing clinical care. Payment agencies are continuously under pressure to act more actively as good purchasers of the best care and to develop and use methods that reward performance. The reforms in this area should be carefully evaluated in order to assess their effectiveness. In order to explore new approaches, new projects and mechanisms should be piloted. They will need policy support and courage. However, the cost of doing the same ineffective things is greater than trying new financing reforms.

Integrating Tobacco Use Prevention and Cessation Education in the Oral Health Curricula

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Use of tobacco has a devastating effect on the health and wellbeing of the public. The effects of tobacco use on the public's oral health are alarming. All forms of tobacco - including cigarettes, cigars, and pipes - have been established as a causal factor for oral and pharyngeal cancer. There is also sufficient evidence to consider smoking a causal factor of adult periodontitis, and tobacco use substantially worsens the prognosis of periodontal therapy and dental implants, impairs oral wound healing, and increases the risk of patients experiencing a wide range of oral soft tissue changes. Unfortunately, tobacco-use remains highly prevalent in Romania. As dental health care providers, we have an opportunity to provide a potentially

life-saving intervention, but often lack the necessary knowledge, training, and experience to provide a personalised tobacco cessation intervention. Dental schools need to incorporate into their curricula not just didactic instruction on the oral health impact of tobacco use, but practical training in smoking cessation counselling. The next generation of dentists and dental hygienists should graduate with competence in assessing and counselling tobacco users. The importance of making space in the curriculum for tobacco-use prevention and cessation has to be emphasised. Dental schools and dental hygiene programmes have to be reminded of the key role of the dental profession in tobacco control. Apart from the public health aspect of tobacco control, such involvement may become both an ethical and a legal responsibility.

Issues Regarding Chronic Diseases Management System In Social Health Insurance In Romania

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Chronic diseases represent a major challenge for public health in Europe and worldwide due to the phenomenon of population ageing, and the increasing prevalence of many chronic diseases. Currently, between 20% and 40% of the EU population, aged 15 years and over, have a long-term health problem, and one in four people receive long-term medical treatment. For health systems and society at large, the implications raised as a result of chronic diseases are considerable. In Romania, several programmes are being developed to address major chronic diseases that impact on public health (cardiovascular disease, diabetes, cancer, mental health, organs transplant and tissues, endocrine diseases, haemophilia, thalassaemia and other rare diseases) Activities for prevention, early detection and treatment are also developing. In addition, committees have been established by the CNAS (National Health Insurance) for the approval of specific therapy in some chronic diseases (chronic severe psoriasis, disorders of nutrition and metabolism, hormonal cause of infertility, chronic hepatitis and cirrhosis viral aetiology of liver, polyarthritis, arthritis, psoriasis, arthropathy, ankylosing spondylitis, juvenile arthritis, Gaucher's disease), in accordance with nationwide-approved protocols. In 2008, funding for and accessibility to specific treatments were increased and the number of patients benefiting from these national initiatives increased by approximately 13% to 741,936, compared with 2007. Chronic disease management requires an integrated approach, involving government policy, health systems, and individual empowerment and support for self-care of patients with chronic diseases.

The Romanian–Bulgarian "Robudent" Network for Cooperation in the Field of Orodental Health

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The ROBUDENT network was established with the aim of supporting the development of cross-border cooperation between Romania and Bulgaria with a view to increasing the living standards and health of the population in the rural area of Constanta county (Romania) and the district of Dobrich (Bulgaria) in general and their oral health in particular. A "Cross-border Centre of Research in Orodental Health" has been established in the Faculty of Dental Medicine at Ovidius University, Constanta. To date, seminars on orodental health have been run and a brochure entitled "Education for Orodental Health" has been produced in Bulgarian and Romanian. There have also been information campaigns for the populations of Constanta county and Dobrich and consultations in the localities that are included in the project. The results so far are as follows:

- Establishment of the first Cross-border Centre for Ordental Research in the Faculty of Dental Medicine at Ovidius University, Constanta.
- Creation of the Robudent network, a cooperation structure between Romanian and Bulgarian specialists.
- Improvement of the level of professional training of the Romanian and Bulgarian clinicians, partners of the Robudent network.
- Increased information and education of the population as regards orodental health.
- Improved quality of life as determined by the orodental health in the case of children at risk of oral disease and the socio-economically deprived in general.
- Increased visibility of the Romanian research activity at Romanian and international meetings and in publications.
- Assessment and monitoring of orodental health in the cross-border area.

It can thus be concluded that Robudent has improved Romanian-Bulgarian cooperation and prevention programmes in the field of orodental health for the population in the rural areas of Constanta county and the district of Dobrich, and contributed to transfer of skills and knowledge from the Faculty of Dental Medicine at the University of Constanta, to pilot centres and the dental clinics of members of the network.

Caries Treatment Need In An Adult Population Aged 35-44 Years From Iasi County

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Aim: The aim of this study was to investigate tooth loss due to dental caries, and the treatment need of a group of adults aged 35-44 years in Iasi County, Romania.

Methods: A random population sample representative of the adult population aged from 35-44 years was drawn from private dental offices and a public dental clinic in Iasi, Pascani, and the surrounding areas. The total sample was 928, of which 491 (53.3%) were residents of Iasi or Pascani and 437 (46.7%) were from rural areas around these cities. Approval for the study was obtained from the ethics commission of the University of Medicine and Pharmacy Gr. T. Popa Iasi. Oral status was assessed using the World Health Organization 1997 protocol and charts. The data obtained were processed using the software program SPSS 13 and were statistically tested using the chi-square test.

Results: The overall average DMF-T was 10.33, of which: D-T=2.13, M-T=3.01, F-T=5.19. With regard to reported area of residence, it was found that in rural areas there are higher values for decayed and missing teeth D-T=2.52, respectively, M-T=3.37. In contrast, in the urban areas there were higher numbers of filled teeth, F-T=5.57. Need for coronal restorations was higher in the population of rural areas, 60.8% of the population compared with 48.8% of the urban areas; a statistically very significant difference (p=0.001, $\div^2$=13.668). The same trend was found regarding the need of endodontic therapy: 53.10% of people in rural areas required this kind of intervention, compared to 41.5% in urban areas (p=0.001, $\div^2$=11.905). The results obtained on the distribution of M-T index determined prosthetic treatment need, which was also higher for rural patients: 44.2% rural versus 38.1% urban.

Conclusion: The results of this study demonstrate that adults aged 35-44 years in rural areas required more dental treatment than people in the cities of Iasi or Pascani. This may draw the attention of politicians to the problems facing this disadvantaged population sector in terms of finance, geography, and culture.

Clinical Risk Management: Current Approaches

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"First, do not harm", said Hippocrates in 500 BC. More recently, since the 1970s, particular concerns have been raised about clinical risk, especially in the USA. Medical care has not become worse. However, it has become increasingly complex, as have the organisations that provide it. Patients' expectations of medical treatment are now higher and their perception of the right to health care is different. These pressures have led to changes in the legal framework and to a marked increase in the number of lawsuits against malpractice. Consequently, a number of health insurance companies have failed to compensate patients for accidental injuries due to failures of medical care. In an attempt to put an end to the "malpractice crisis" since the mid-1980s, several interdisciplinary research groups have begun to investigate the human and organisational factors affecting the safety of health care provision. They have demonstrated that the models of causation of incidents, developed for the industrial sector, also apply to health care sector. Thus, there is now a widespread acceptance that principles and tools for risk management developed in this sector are also effective in the health care sector.

It is therefore necessary for clinicians to understand the role of human and organisational factors in the causation of incidents and to be aware of the importance of switching towards a culture of safety in their organisation(s). They can then develop an effective system for risk management in hospitals or clinics. The magnitude of clinical risk at an international level should not be underestimated. The psychological approach to incident causation and the main characteristics of the safety culture ("just culture") should be understood, in contrast to the more traditional "blame culture". It is also essential to know what should be done immediately after an error occurs and how to communicate it effectively to the patients.

Locator, Fasteners or Magnets in Full Overdentures Placed on Dental Implants in The Mandible

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Introduction: Overdentures placed on implants in the mandible increase patient satisfaction and improve the overall quality of life for people without any natural lower teeth.

Aim: The aim of this study was to compare the locator with two other retention systems used to aid the retention of full lower dentures.

Methods: The study was conducted on a total of 69 patients aged 42-84 years, all of whom had edentulous mandibles with severe atrophy of alveolar ridge, instability, and pre-existing dentures. Two Straumann implants, length 10 mm for 35 patients and 12 mm for 34 patients, were inserted to a standard protocol and using a single-stage surgical procedure. Six weeks post-operatively, each subject was made a mandibular prosthesis with a metallic frame. Subjects were randomly assigned to one of three groups, each with 23 patients. Group L was the locator system group, group B was the random button-pressure group, and group M was the magnets group. The following parameters were measured at the insertion of the prosthesis and then at six-monthly intervals: plaque, gingival inflammation, calculus, probing pocket depth, bleeding on probing, together with the stability of the implants, denture stability, and marginal bone resorption.

Results: 18 months after fitting the prostheses, four of 138 implants were lost, a success rate of 97.1%, Accumulation of bacterial plaque was more pronounced in patients in groups B and L. There was no significant variation in the stability of the implants or of the retention of lower dentures between the three groups. There was no significant difference in marginal bone resorption between the groups.

Conclusions: In this study**,** patients were satisfied both with the physical appearance and the function of the lower overdentures that were placed on implants and with the restored function and facial form. The choice of retention system depends on the characteristics and needs of the patient.

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