COLOGNE, Germany: Latest market figures released by the Federation of the European Dental Industry (FIDE), in cooperation with the Association of European Dental Dealers (ADDE), last month at the International Dental Show in Cologne, indicate rapid changes toward a digital dentistry manifesting in overall trends to a more global approach with group practices and consolidations throughout dental markets in Europe. The organisation’s 2015 market survey also revealed that the number of European dentists has slightly increased to a total of 276,090 in 2014 compared to 270,045 the year before.

A contrary trend showed in the number of dental offices and dental laboratories. While the numbers of the former remained flat on average, the total figures of labs in Europe has decreased in almost every surveyed country. According to ADDE President Dominique Deschietere, given the growing numbers of practicing dentists this development either indicates a trend to group practices or consolidation.

While the number of dental technicians has remained steady or slightly decreased in all countries except Hungary, the number of dental hygienists increased in all countries of the survey. This development is especially prominent in the UK, with the number of dental hygienists growing distinctively compared to 2013. As Deschietere has put it, this seems to be a result of the evermore “bending of the laws” in this area.

On the supply channels side, the percentage of direct sales from manufacturers remained steady in most countries, and the share of products purchased via e-mail or internet is constantly, if only slightly, increasing compared to the previous year. Further, the figures indicate that the sales volume of equipment has dropped in 2014, while sales of sundries and consumables remained stable on average.

“Dentists continue to treat patients,” Deschietere pointed out. “Consumables and sundries, not new equipment like CAD/CAM units or intra-oral X-ray units, kept the figures up during the last years.”

To this date the gathering of information on new technologies seems to be the weak point of the survey. Although Germany shows a jump in the numbers of intra-oral scanners installed, most countries are not collecting data on the subject so far, explained Deschietere.

The annual ADDE/FIDE survey, which is conducted through its national associations since 1998 and represents the interests of more than 960 dental dealer organisations, covers the most relevant topics and trends for the European Dental Industry, such as the number of customers and end users, sales values for the main product categories, the use of computer and e-commerce, sales segments, distribution channels as well as VAT charges and their impact on the market.
Per-Ingvar Brånemark—An innovative genius

Prof. Tomas Albrektsson, Sweden, remembers the man who changed dentistry with the discovery of osseointegration of dental implants

Per-Ingvar Brånemark passed away on 20 December 2014 at the age of 85. Throughout his career as a researcher, he overcame fierce opposition to dental implants and revolutionised methods for treating edentulous patients.

An extremely gifted scientist, Brånemark was also as witty and quick on his feet as they come. Various language editions of Reader’s Digest, hardly considered a medical journal of note, published an article in the late 1960s about his research on microcirculation. At the end of his first lecture about dental implants in Landskrona in Sweden in 1969, a member of the audience, who turned out to be a senior academic of Swedish dentistry, rose and commented, “This may prove to be a popular article, but I simply do not trust people who publish themselves in Reader’s Digest.” As it happened, that senior academic was well known to the Swedish public for having recommended a particular brand of toothpick. Brånemark immediately rose and struck back, saying, “And I don’t trust people who advert themselves on the back of boxes of toothpicks.”

Young and naive as I was, I thought they were just joking fun at each other, but it turned out to be the opening shot of an eight-year battle with the dental profession. When someone cast aspersions on dental implants several years later because Brånemark was not a practitioner, he lost no time in replying, “Teaching them anatomy is good enough for me.”

Brånemark completed his medical training at Lund University in Sweden with a doctoral thesis on microcirculation in the fibula of rabbits. Grinding the bone to a state of transparency permitted the use of intravital microscopy to analyse the blood flow in both bone and marrow tissue. The thesis, which found wide recognition both in Sweden and abroad, landed Brånemark an appointment at the Department of Anatomy of the University of Gothenburg just a year later. He was appointed as Associate Professor of Anatomy (later received a full professorship) in 1963, which qualified him for laboratories of his own and the opportunity to surround himself with a team of researchers.

Brånemark continued to pursue his studies in microcirculation in animal models and ultimately in humans. A plastic surgery technician was used to prepare soft-tissue cylinders on the inside of the upper arm. He then inserted optical devices encased in titanium that enabled intravital microscopy of microcirculation in male volunteers. By the late 1960s, he was able to produce the highest resolution images of human circulation in the history of medicine. Many people are familiar with Lennart Nilsson’s photographs of circulation that were taken at Brånemark’s laboratories and developed at the Department of Anatomy. Brånemark’s laboratories and developed at the University of Gothenburg in Sweden in 1969, a member of the audience, who turned out to be a senior academic of Swedish dentistry, rose and commented, “This may prove to be a popular article, but I simply do not trust people who publish themselves in Reader’s Digest.” As it happened, that senior academic was well known to the Swedish public for having recommended a particular brand of toothpick. Brånemark immediately rose and struck back, saying, “And I don’t trust people who advert themselves on the back of boxes of toothpicks.”

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Brånemark grasped the fundamental truth that edentulousness represents a significant disability, particularly for people who cannot tolerate dentures for some reason. He operated on his first patient in 1965, a mere three years later. The academic community was largely distrustful and hostile to the new approach. The debate was not put to rest until 1977, when three professors at Umeå University in Sweden announced that Brånemark’s technique was the recommended first-line treatment. Opposition in other countries eventually waned as well and dental implants, originally manufactured by a mechanic in the basement of the Department of Anatomy, scored one international triumph after another.

Nowadays, an estimated 15–20 million osseointegrated dental implants are installed every year, and a number of different academies in the field hold annual conferences at- tempted by as many as 5,000 participants each. The University of Gothenburg features a permanent exhibit on osseointegration technology and there is a museum in Brånemark’s honour at the Faculty of Stomatology of Xian Jiaotong University in Xian in China. The P-I Brånemark Institute has been also established in Bauru in Brazil.

Not only dentistry

Back in the 1970s, Brånemark began collaborating with ear specialists and technicians at Chalmers University of Technology to explore the additional potential of osseointegrated implants for developing hearing aids inserted behind the ear. Hundreds of thousands of patients around the world have had operations based on the technology initially developed in Gothenburg under his direction. Those of us who were on the team at the time will never forget a teenage girl who suffered from the effects of thalidomide. The medicine had caused not only limb deformities, but also hearing loss in many patients. Equipped with the new hearing device, she learnt to speak flawlessly. The team also targeted unusual deformities occasioned by congenital or acquired injuries. A number of implants installed in the vescicocutaneous served as fasteners for silicone prostheses, a more creative option than attaching them to the patient’s glasses. Since the first operation in 1977, the use of the technology has become widespread internationally.

Titanium implants installed in the femur were the next spin-off of Brånemark’s research. Patients with above-knee amputations cannot have socket prostheses around the hip, which they may have to use in a wheelchair to get around. Inserting titanium screws in the femoral stumps permitted the installation of a prosthesis and the ability to walk again. I can still remember the first patient as if it were yesterday. Another teenage girl had been run over by a streetcar in Gothenburg and had above-knee amputations in both legs. She was consigned to spending the rest of her life in a wheelchair. The operation was highly successful and she learnt to walk again.

Acclaimed around the world

Brånemark was fuelled by a passion to help difficult-to-treat patients, and many of his clinical discoveries from the first dental implant on were made in response to cases that had been regarded as hopeless. His innovative genius, fortified by a large research laboratory and the development of medical products, attracted the attention of major companies like Nobel Biocare and Astra Tech into leading positions in the global market. He was devoted to the academic community’s social responsibility long before many of his colleagues were aware of, much less accepted, the concept. Ultimately, the world came around and he was awarded honorary doctoral degrees by 29 universities and honorary memberships by more than 50 scientific associations—not to mention the Royal Swedish Academy of Engineering Science’s Medal for Technical Innovation, the Swedish Society of Medicine’s Söderberg Prize, the European Inventor Award for Life Time Achievement, and many other distinctions around the world.