

REPORT ON THE 17TH ANNUAL MEETING AND SCIENTIFIC SESSION OF THE BIOFEEDBACK FEDERATION OF EUROPE, 11–15 FEBRUARY 2014, VENICE, ITALY

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The Biofeedback Federation of Europe (BFE) is a non-profit organisation dedicated to improving health education and promoting various therapeutic methods aimed at enhancing people's physical and mental well-being. BFE organises annual meetings which aim to bring together specialists from different disciplines including psychology, medicine, physiotherapy, education, applied psychophysiology, and related areas. The 17th Annual Meeting of BFE took place on 11–15 February at the Salesian University in Venice, Italy. Its goal was to raise awareness of the human organism as a complex unit in which various functional systems interact. If this is so, then to restore functional harmony we must use and integrate diverse therapeutic methods to improve human health such as biofeedback, neurofeedback, and mindfulness. Moreover, these techniques should be complemented by a good diet, daily exercise, and healthy social interactions.

BFE meetings are usually closed events attended by about 200 participants. This year they came not only from Europe but also other parts of the world such as the United States, Canada, Israel, Taiwan, Japan, Georgia, and South Africa. Among the representatives there were 10 people from Poland including some from the Mazowian Health Center in Tworki, the Institute of Physiology and Pathology of Hearing in Warsaw, the Provincial Hospital No. 2 in Rzeszow, the Academy of EEG Biofeedback – Training and Therapeutic Center, the School Guidance Counselling Service No. 3 in Cracow, the Centre of Early Intervention “Elektra” in Slupsk, and the Middle School No. 1 in Kolobrzeg.

A major part of the congress included different training and workshops conducted by experts in neurofeedback, biofeedback, EEG, QEEG, and mindfulness. The official language of the workshops was English but some of the practical lectures were also conducted in Italian.

A very interesting 5-day workshop titled “Fundamentals of neurofeedback combined with biofeedback for basic assessment and training” was conducted by Dr Lynda Thompson and M.D. Michael Thompson from Canada, the founders of the ADD Center in Toronto and experts and longtime teachers of neurofeedback and biofeedback.

Workshops of 2 days and 5 days in length were conducted by Prof. Donald Moss from the Saybrook University in San Francisco, Prof. Fred Schaffer from the Truman University, and Prof. Erik Peper, current president of the European Society of Biofeedback from the State University of San Francisco. All the workshops used the heart rate variability

(HRV) method which is a biofeedback technique that can be applied to different physical and mental dysfunctions.

During the meeting a very interesting workshop on “Feedback of slow cortical potentials: basics, protocols, applications and evidence” was run by Dr Ute Strehl and Dr Kerstin Mayer from the University of Tübingen. Dr Strehl acquired professional experience in slow cortical potentials (SCPs) at the laboratory of Prof. Nils Birbaumer, Prof. Thomas Elbert, and Prof. Brigitte Rockstroh, pioneers in slow cortical neurofeedback. Dr Strehl and Dr Mayer presented the results of studies on use of SCP neurofeedback in treatment of people with ADHD and epilepsy. Discussion also covered the mechanisms of generation and functional significance of SCPs, which are infra low-frequency negative or positive polarisations in the EEG signal that last from 300 ms to several seconds. In addition, the basic protocols used in SCP neurofeedback to treat different disorders were reviewed.

Another noteworthy workshop was one on “ClinicalQ and braindriving: fundamental neurotherapy for professionals” by Dr Paul Swingle, a lecturer in psychiatry at Harvard Medical School in Boston. The workshop covered the author's diagnostic method (ClinicalQ) which is a simple way of specifying any abnormalities in the quantitative electroencephalogram (QEEG). Based on data obtained by ClinicalQ, a detailed plan of interventions using the neurofeedback technique can be developed. In addition, some supporting techniques such as electrostimulation, acupuncture, hypnosis, cranio-sacral therapy, and the emotional freedom technique were discussed during the workshop.

One of the 2-day workshops was led by Prof. Jay Gunkelman, a recognised specialist in the field of EEG and QEEG. Prof. Gunkelman has huge practical experience, and has processed over 500,000 EEGs since 1972. For many years he was president of the International Society for Neurofeedback and Research. Prof. Gunkelman's workshop on “EEG and QEEG: integrating phenotype and vigilance model” concerned specific genetic patterns of bioelectrical activity of the brain that can be observed during a QEEG study. Gunkelman described these patterns as EEG phenotypes, and according to him they are much more useful in the classification of different types of disorders than the standard DSM classification. Based on a QEEG, they can precisely describe particular types of disorders and divide them into subgroups.

Other interesting 1 or 2-day workshops took place during the BFE conference. There was a workshop by Dr Stephen

Porges from the Brain-Body Center at the Illinois University in Chicago on the effect of the vagus nerve on the emotional reactions and social relationships of humans and animals. Dr Michael Linden, Director of Attention Learning Centers and Attention Performance Centers in Southern California, gave a workshop on the specific QEEG patterns observed in ADD, Aspergers, and autism. There was a workshop titled “Applied work with athletes in peak performance and sports” by Dr Leah Lagos on the use of psychophysiological measures in evaluating, and improving, athletes’ performance. Finally, there was a workshop by Dr Inna Kazan, a clinical psychologist at Harvard Medical School, on “Mindfulness and acceptance approach to biofeedback” during which participants were able to learn how to apply mindfulness and acceptance techniques in clinical biofeedback practice.

In addition to many interesting workshops, numerous compelling lectures were also delivered during the meeting. After the first ‘Scientific Day’, which began on February 12, Prof. Erik Peper, president of the BFE, and Dr Dotto Giacomini, co-organiser of the meeting, welcomed all participants. Following the official conference opening, two interesting keynote lectures were delivered. The first, “Meditation and biofeedback: combining eastern traditions with western gadgets”, was presented by Dr Inna Khazan, and the second, on “The polyvagal theory: demystifying the link between social behavior and health”, was given by Dr Stephen Porges. Both lectures were summaries of the issues that had been discussed at the workshops earlier. The scientific program was continued on February 13, when the lectures were split thematically into two parts: neurofeedback and biofeedback. Sessions were organised in both English and Italian. The neurofeedback session started with Dr Ute Strehl’s presentation on the optimisation of neurofeedback protocols by using known learning mechanisms. In the neurofeedback session, there were lectures by Prof. Nicola Giacomini from St Mark Salesian Institute in Venice titled “What is going on?”, and by Drs Lynda and Michael Thompson titled “Concussion hits hard: recovery from the multiple effects of concussion”. The most remarkable presentation delivered during the neurofeedback session was the talk by Jay Gunkelman on “TBI diagnosis and treatment: utility of EEG/QEEG and ERP”. The author presented a detailed review of the scientific literature on the application of EEG, QEEG, and evoked potentials methods in the diagnosis and treatment of traumatic brain injuries (TBIs).

A biofeedback session included Erik Peper’s presentation on the reduction of chronic pain in the head and neck by means of surface electromyography (sEMG) biofeedback. A presentation on the treatment of back pain by means of sEMG biofeedback by Dr Annette Booiman was also part of this session. A very interesting lecture on “sEMG, a fun and useful tool in muscular dysfunction investigation and rehabilitation” was given by Dr Gabriel Sella, an author of many articles and books on the rehabilitation of neuromuscular disorders. In his lecture, Dr Sella focused mainly on the application of the sEMG protocol developed by him to therapy of various types of muscle disorders and how this protocol can be combined with other modalities of biofeedback.

Among lectures, there was work on “New directions in psychiatric clinical practice: the role of QEEG diagnostics and therapeutics and combining neurofeedback with

tDCS and TMS”. Here, Dr Asif Hasan, from the USA, gave a modern approach to the diagnosis and treatment of various types of mental disorders, treatments that can be used in clinical practice. Dr Hasan emphasised the importance of detailed QEEG diagnosis before starting any treatment. His approach combines transcranial direct current stimulation (tDCS), transcranial magnetic stimulation (TMS), and the LORETA neurofeedback therapy, which uses a special algorithm to change bioelectrical activity in specific brain regions to treat specific brain dysfunctions. Dr Mari Swingle from Canada spoke about specific patterns of resting brain activity in cases of people addicted to the Internet and electronic devices.

During the neurofeedback session, a presentation was given by Piotr Sobaniec, MSc, from the Medical University in Bialystok, Poland, who is also leader of the Neuromaster Company. He presented the results of his studies into improving the functioning of autistic children, where he compared the efficiency of different approaches such as neurofeedback, pedagogical, cognitive, and hypnotherapy. Another Polish researcher, Dr Rafal Sztembis from Rzeszow, gave an insight into the psychological factors behind the etiology and treatment of cardiological disorders. Dr Sztembis is a cardiologist who specialises in the treatment of disorders such as heart attacks, and he described a number of personal experiences. He also described a model developed by him based on psychology, mind-body medicine, self-regulation, and the use of biofeedback which he uses in the treatment of patients with acute myocardial infarction.

There were two poster sessions including about 30 posters, some of which attracted much interest. They included posters from Dr Strehl’s group on the use of slow cortical potentials in treating various disorders, and one by Dr Ralph Warnke on the application of hemoencephalography in the treatment of different types of nervous system disorders. Work from the Institute of Physiology and Pathology of Hearing in Warsaw was also shown. Dr Rafal Milner presented work on “Patterns of bioelectrical resting activity in chronic bilateral tinnitus”. The results of his work indicate that the frontal and temporal regions of the brain may be responsible for generating tinnitus. Specific QEEG patterns in tinnitus patients appear different to those observed in healthy people. These QEEG patterns may be useful in objectively diagnosing tinnitus and in planning neurofeedback therapy for patients with chronic bilateral tinnitus. Dr Milner’s work captured the attention, among others, of Prof. Gunkelman, Dr Swingle, and Dr Miroslav Nowotny (Czech Republic), and fruitful exchanges took place.

The meeting and its numerous workshops was a great opportunity to obtain practical knowledge on various psychophysiological approaches to improving mental wellbeing and treating different disorders. The conference gave the opportunity to listen to leading experts in the fields of EEG, QEEG, neurofeedback, biofeedback, and mindfulness. Their lectures were an excellent source of information on different therapeutic approaches, theories, and ideas, and invaluable practical guidelines were learned that could be used in everyday clinical practice. The Venice conference gave the opportunity to exchange experiences and bring together both practitioners and theoreticians.