

PROFESSIONAL ISSUES

Current and Future Status of Biofeedback in Taiwan

I-Mei Lin, MA,¹ Erik Peper, PhD,² and Chia-Ying Weng, PhD¹

¹National Chung Cheng University, Chia-Yi, Taiwan; ²San Francisco State University, San Francisco, CA

Keywords: biofeedback, Taiwan, psychiatric disorders, psychosomatic disorders, ergonomics

Since 1980, biofeedback has emerged in Taiwan as a treatment modality first for psychiatric patients and more recently for a broader range of psychosomatic and emotional problems. Biofeedback is also applied in research on work-site human factor and ergonomic problems and for peak performance in sports. Community-based treatment is expanding, although insurance reimbursement is an obstacle. The publication of Chinese-language biofeedback efficacy studies and one textbook and the increased availability of training have supported a broadening of biofeedback practice in Taiwan.

Biofeedback utilization in Taiwan is in its infancy. Use of biofeedback was initiated in the 1980s within the Department of Family Medicine of the National Taiwan University by Professor En-Chang Wu, who used one-channel electromyography and skin conductance with psychosomatic and emotional disorder patients. He taught patients muscle relaxation and stress management. Thereafter, several psychologists in Taiwan began to use biofeedback with psychiatric patients. The major development of applied psychophysiology and biofeedback occurred through university programs in clinical health psychology. At present, a few universities offer biofeedback classes and train graduate students how to use biofeedback equipment for clinical assessment and psychotherapy.

Until 2001, biofeedback was predominantly used in hospitals by clinical psychologists within psychiatric departments because the national health insurance reimburses only for hospital treatment, mental disorders, and referrals by psychiatrists. In the hospital setting, it is used for the treatment of anxiety, panic disorders, phobias, or hyperventilation syndrome.

In the educational setting, biofeedback is taught as a research tool in a few university departments and research centers that focus on anxiety, tension-type headaches, pelvic floor muscle exercises, urinary incontinence, and stroke rehabilitation (Chen, Weng, & Chen, 1999; Fang et al., 2005; Lin, Tsai, Weng, & Wen, 2002; Tsai, 2003). After 2001, biofeedback began to be included in clinical practice by psychologists who were then allowed to practice in the community. Only recently has training been available in

Taiwan. The first lecture on biofeedback was delivered by Dr. Erik Peper in 1996. However, students or professionals who were interested in biofeedback and applied psychophysiology had to go to the United States or Europe to attend meetings of the Association for Applied Psychophysiology and Biofeedback or the Biofeedback Foundation of Europe or for private Biofeedback Certification Institute of America (BCIA) training programs. After 2002, professional training in biofeedback was initiated by Bioland, a Taiwanese biofeedback equipment distributor, and the Taiwan Psychology Association. These groups invited international experts such as Dr. Paul Lehrer in 2000 for a biofeedback workshop on muscle relaxation and behavior therapy at Kaohsiung Chang Gung Memorial Hospital and Dr. Erik Peper in 2002, 2006, and 2007 for biofeedback lectures and workshops on preventing discomfort at the worksite/computer and biofeedback in primary care at National Taiwan University Hospital, National Chung Cheng University, and Kaohsiung Medical University, respectively, as shown in Figures 1, 2, and 3. More than 100 participants joined the workshop. During the summer of 2007 under the leadership of Professor Chia-Ying Weng and the Clinical Psychologist Association of Chia-Yi, National Chung Cheng University and its Department of Psychology offered the first 48-hour BCIA training program for 31 psychologists and psychology graduate students taught by Dr. Erik Peper (as shown in Figure 4).

At these programs, psychologists received training in biofeedback applications for psychosomatic medicine (such as headaches, incontinence, hypertension, rehabilitation



Figure 1. National Taiwan University Hospital training program (2002).



Figure 2. Biofeedback workshop at the National Chung Cheng University (2006).

applications, asthma, insomnia, and epilepsy) and child problems (e.g., attention-deficit disorder [ADD], attention-deficit hyperactivity disorder [ADHD], and computer game- or video game-related problems). This training offered an alternative treatment strategy for patients with psychosomatic disorders who previously would have been treated by folk healers or pharmaceutically by Western trained physicians. With the publication of new Chinese-language efficacy studies with English abstracts about the clinical applications of biofeedback, psychologists have an opportunity to educate physicians and the public about successful treatment for specific psychosomatic disorders with applied psychophysiology (Fang et al., 2005; Lin et al., 2002; Tsai, Hu, Shih, & Lin, 2006).

Where Is Biofeedback Done in Taiwan?

Clinical biofeedback is still predominantly done in hospital departments of psychiatry, family medicine, sleep, physical medicine, and rehabilitation. Teaching, training, and research with biofeedback is done in departments of psychology at the universities. Biofeedback is also used clinically at a few community outreach programs and clinics. A few counseling centers at universities offer biofeedback for students for test anxiety, deficient learning strategies, and remediation of academic skills through anxiety reduction. Biofeedback is also used in the laboratories for the study of human factors and ergonomics as well as the environmental research laboratory to improve health at the workstation and office. It is also used at the sport center for training peak performance, stress management, and research.

Who Does and Accepts Biofeedback?

Psychologists, physicians, and therapists within hospital settings offer biofeedback for anxiety, panic disorder, hyperventilation, insomnia, headache, hypertension, pain disorder, stress-related disorders, and pelvic floor muscle exercise. They combine biofeedback with muscle relaxation, stress management, imagery, meditation, self-regulation, and cognitive-behavior therapy (CBT). At times, patients need to pay out of pocket for the biofeedback services because reimbursement by the national health insurance is limited to psychiatric conditions.

Limitations to Biofeedback Growth

Major barriers to biofeedback growth and implementation are the low insurance reimbursement fees and the high cost of the computerized biofeedback equipment. The average reimbursement fee for biofeedback therapy by national medical insurance is \$30 for initial assessment and planning and \$8 for individual biofeedback therapy; this reimbursement is limited to 12 sessions. The reimbursement



Figure 3. Biofeedback workshop at the National Chung Cheng University (2006).



Figure 4. Biofeedback Certification Institute of America 48-hour workshop at the National Chung Cheng University (2007).

is \$4 for group biofeedback therapy per person per session, and this is also limited to 12 sessions. The relative cost of the equipment is approximately 10 times as expensive for psychologists in Taiwan as compared with psychologists in the United States; namely, it would take approximately 1,000 working hours by a psychologist in Taiwan as compared with 100 working hours in the United States to buy a computer-based multichannel/multimedia biofeedback system. Despite these limitations, psychologists are beginning to include biofeedback in their private clinics. Already a few private clinics in Taipei and Kaohsiung (Taiwan’s two largest cities) offer biofeedback therapy. We expect biofeedback practice to expand as more therapists are trained, more practitioners open fee-for-service clinics, and the national health insurance reimbursement fees increase and include reimbursement for psychosomatic medical conditions.

The Future of Biofeedback in Taiwan

Biofeedback, as an evidence-based approach, will allow psychologists to expand their practice from a predominantly psychiatric disorders focus (e.g., severe depression or schizophrenia) to the broader range of psychosomatic disorders. Practitioners foresee the utility of integrating biofeedback with CBT, stress management, and other approaches in the treatment of many disorders that are initially treated by folk healers and Western-trained physicians. Over the next 10 years, biofeedback in Taiwan will significantly expand with the opening of behavioral medical clinics within hospitals and psychology clinics in community centers and the expansion of private clinics in the major cities. At present, psychologists are exploring biofeedback for (a) psychophysiological stress profiling for

different diseases; (b) treatment of cardiovascular disorders with heart rate variability training; (c) treatment of asthma, recurrent abdomen pain, hypertension, diabetes, and sleep-related problems; (d) treatment of fear, panic, and pain associated with cancer; (e) treatment for ADD and ADHD with neurofeedback; (f) strategies to reduce work-related illnesses and work stress; and (g) documenting clinical efficacy.

We expect that as biofeedback becomes more integrated within psychological practices, the range of clinical applications will expand and more training programs will be offered. Accessing text materials has also become easier since the initial Chinese publication in 2006 of the *Handbook of Mind-Body Medicine for Primary Care* by Donald Moss, Angele V. McGrady, Terence C. Davies, and Ian Wickramasekera. Finally, biofeedback is a natural fit within the Taiwanese culture because there is an acceptance of the unity of mind-body-spirit. We hope to continue to organize training programs in the future and invite more international experts to share their experiences.

Acknowledgment

We thank Mr. Marco Huang of Bioland Technology Corporation, Taiwan, for his significant contribution.

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Erik Peper



I-Mei Lin



Chia-Ying Weng

Correspondence: Erik Peper, Institute for Holistic Healing Studies, San Francisco State University, 1600 Holloway Avenue, San Francisco, CA 94132, email: epeper@sfsu.edu.

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