



UMJETNOST I ZNANOST U RAZVOJU ŽIVOTNOG POTENCIJALA

ART AND SCIENCE IN LIFE POTENTIAL DEVELOPMENT

Znanstvena knjiga / Scientific book

Miroslav Prstačić / Editor in Chief

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*Urednik / Editor in Chief
Miroslav Prstačić*

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VIBROAKUSTIČNA TERAPIJA – Istraživanje na Sveučilištu u Tallinu VIBRO-ACOUSTIC THERAPY – Research at Tallinn University

Sažetak:

Članak daje pregled metode vibroakustične (VA) terapije i njezine primjene u svrhu unaprjeđenja zdravlja, a oslanja se na istraživanje provedeno na Sveučilištu u Tallinu. Razmatraju se psiho-fiziološko terapijsko djelovanje i posebno djelovanje vibroakustične (VA) stimulacije, primjena metode za poboljšanje emocionalne dobrobiti i vibroakustično (VA) liječenje kao komponenta šire terapijske intervencije.

Ključne riječi: vibroakustična terapija, psihofizičko djelovanje, primjena

Summary

The article gives an overview of the method of vibroacoustic (VA) therapy and its application for health promotional purposes, relying on research carried out at Tallinn University. The psycho-physiological therapeutic effect and specific effect of VA stimulation, the application of the method to improve emotional wellbeing and VA treatment as a component of wider therapeutic intervention are viewed.

Key words: vibroacoustic therapy, psycho-physical effect, application

Introduction – Vibro-Acoustic method

At Tallinn University VA therapy has been applied for 20 years. Technological means and solutions have considerably improved since then, while at the same time we are relying on the traditional approach, which defines vibroacoustic (VA) therapy as a therapeutic and relaxation method based on audio-tactile effect (hearing and body sensation) of music and sound vibrations (Skille, 1989; Skille & Wigram, 1995; Grocke & Wigram, 2007). We use the programmes of the author of the method Olav Skille (pulsed sinusoidal frequency mostly between 30–90 Hz). During a therapy session the client is lying on a bed with inbuilt loudspeakers, low frequency sound stimulation is delivered through the loudspeakers. At the time of the procedure we add (relaxing) music or sounds of nature (e.g. Vinkel, 1999; 2001; 2006) to masque the audible part of low frequency sounds and provide musical support to the objectives of the therapy.

The duration and number of sessions vary depending on the needs of each client. Our practical experience has proved that ten sessions are appropriate on the majority of occasions. The effect of the method on psychological and physiological indicators was proved significant already during the study carried out with 40 patients with anxiety disorders at the launch of the method (Saluveer, Tamm, & Ojaperv, 1989). The research revealed a remarkable effect after 10 treatment sessions: self-confidence and work motivation increased, symptoms of depression diminished, systolic and diastolic blood pressure dropped, stomach ailments, headaches, asthenia diminished. Women were more responsive to treatment than men, the treatment of older patients was more efficient than the treatment of younger patients. ECG showed no remarkable changes after one procedure. VA treatment effect on cardiological indicators was investigated in the study (Mardi, Pehk, Rüütel, Tamm, Vinkel,

1995), where 55 students with stress complaints received 6-8 sessions of VA therapy. In 25 cases out of 37 (67.6%) electrocardiographical and clinical symptoms of neurocirculatory dystonia disappeared or decreased and in 12 out of 18 (66.7%) cases clinical symptoms of neurocirculatory dystonia disappeared or decreased during treatment series.

A recent pilot study carried out by the authors of the article in 2006-2007 measured the effect of 10 sessions of VA therapy on emotional state. Subjects were 40 female students with *increased indicators of anxiety and depression* at average age of 22 years. The subjects were divided into an experimental group and a control group. The self-report Emotional State Questionnaire EST-Q (Aluoja, Shlik, Vasar, Luuk, & Leinsalu, 1999) was used for measures taken before and after VA treatment series. The interval between the two measurements was five weeks. The results showed a significant decrease in the sub-scales of depression, general anxiety, agoraphobia and panic, social anxiety, asthenia but not in the sub-scale of insomnia. Changes in the control group had no statistical significance in any of the sub-scales.

Latest research results have shown that VA treatment can have a positive effect in the treatment of *eating disorders* on promoting physical self-awareness and diminishing symptoms of anxiety and depression. The research results indicate that positive bodily feeling (physical relaxation) from VA treatment can promote the acceptance of one's body and through this enhance satisfaction with the body and oneself in general.

Vibroacoustics as a component of wider therapeutic intervention

A qualitative study carried out with 10 teenage girls with elevated anxiety (Rüütel, Ratnik, Tamm, & Zilensk, 2004) gave essential information about the processes taking place during VA treatment. The aim of the study was to describe VA treatment and its role in therapeutic intervention that combined VA treatment with drawing, self-administered mood check-lists and conversations. The interviews brought out two important aspects of VA treatment: 1) novel bodily sensation (the effect of sound vibration on senses, muscle relaxation, rest) and 2) an opportunity for reflections – a possibility to stay in peace and/or think about one's own matters. Combining VA treatment with activities promoting self-awareness (in the present study a self-portrait and mood analysis) allows us to view VA treatment as a "background supporter" for coping and personal growth enabling the clients to achieve good physical and emotional well-being.

Specific effect of vibroacoustic therapy

The above mentioned qualitative study (Rüütel, Ratnik, Tamm, & Zilensk, 2004) revealed a significant impact of music on the result of VA treatment – meaningfulness of the music for the clients had an essential influence on their emotions and feelings. Wigram (1995) has also emphasised that in spite of the passive nature of VA treatment, the relationship between the client and the therapist, and the relationship between the client and the music share equal importance.

The specific effect of VA stimulation on physical parameters is difficult to measure. For example, an experimental study by Kvam (1997) with people with cerebral palsy did not indicate significant difference between the effect of music and VA stimulation. Our study with healthy subjects (Rüütel, 2002) showed that the main effect on physiological indicators (pulse rate, blood pressure, muscle oscillation frequency) and psychological indicators (feeling of health and comfort) after one or two stimulation sessions of vibroacoustics, music or silence referred to relaxation in case all three experimental conditions were present.

However, the experimental study revealed some music-specific results. Stimulation with music (music and vibroacoustics) was accompanied by a more positive direction of changes in the perceived health and comfort, whereas there were differences in changes characterising music and vibroacoustics. The experiments indicated that the intensity of sound stimulation (if it is not too loud or too silent for the client) does not significantly influence the effect of the stimulation. Studies (Rüütel 2002; Saluveer, Tamm, & Ojaperv, 1989) have also shown that women can perceive a wider spectrum of changes in VA therapy than men. That supports findings from music therapy, e.g. Standley (1995) has pointed out that women respond to music more easily and evaluate the influence more positively than men.

Several studies (Skille & Wigram, 1995; Wigram, 1993; Wigram, 1997) have stressed that

VA treatment has a cumulative effect. The effect of VA therapy is the result of combined action of several components – tactile and auditory sound stimulation, therapist's procedural activities and the environment. Therefore, registering the specific effect of the vibroacoustic component is complicated and often insufficient to characterise the whole outcome of therapeutic intervention.

Conclusion

Suitability of VA methods in therapeutic programmes for promoting relaxation, reducing stress and relieving symptoms of anxiety, depression, and relationship difficulties has found confirmation in several studies (e.g. Erkkilä, 2003; Lehtikoinen, 1988; Rogers, Ei, Rogers, & Cross, 2007; Rützel, Ratnik, Tamm, & Zilensk, 2004). Research results have also shown that one or a couple of sessions of VA therapy could be applied to healthy people in order to reduce fatigue or stress of daily life (Rützel, 2002). Applying VA method for stress release and relaxation presupposes, however, personal treatment, which is more time and labour consuming than a stress-management programme based on group work.

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