

EFFECTIVENESS OF DANCE MOVEMENT THERAPY – a review of studies

DANCE MOVEMENT THERAPY: DEFINITION

According to the Ethical Code by European Association Dance Movement Therapy¹, Dance Movement Therapy (DMT), also known as Dance Movement Psychotherapy (DMP) or Movement Psychotherapy in the UK, is the therapeutic use of movement to further the emotional, cognitive, physical, spiritual and social integration of the individual. Dance as body movement, creative expression and communication, is the core component of Dance Movement Therapy. Based on the fact that the mind, the body, the emotional state and relationships are interrelated, body movement simultaneously provides the means of assessment and the mode of intervention for dance movement therapy.

DMT is:

- Focused on movement behaviour as it emerges in the therapeutic relationship. Expressive, communicative, and adaptive behaviours are all considered for group and individual treatment. Body movement, as the core component of dance, simultaneously provides the means of assessment and the mode of intervention for dance/movement therapy;
- Is practiced in mental health, rehabilitation, medical, educational and forensic settings, and in nursing homes, day care centres, disease prevention, health promotion programs and in private practice;
- Is effective for individuals with developmental, medical, social, physical and psychological impairments;
- Is used with people of all ages, races and ethnic backgrounds in individual, couples, family and group therapy formats².

DMT can be experienced in a small group setting or through individual therapy sessions, with a qualified and registered therapist. The acknowledgment and exploration of the relationship that develops between the participant, the therapist and other group members (where group is the medium) is key to the therapeutic process. The aim of the therapeutic contract is for the therapist to facilitate the client in making meaning of their patterns of behaviour, gain some understanding of the responses that support their fears and anxieties, grow more socially confident and gain clarity about what they want and need in life³.

1 EADMT Ethical code (n.d.). Retrieved from European Association Dance Movement Therapy web page <http://www.eadmt.com/?action=article&id=24>

2 About Dance Movement Therapy (n.d.). Retrieved from American Dance Therapy Association web page http://www.adta.org/About_DMT/

3 What is Dance Movement Therapy? (n.d.). Retrieved from European Association Dance Movement Therapy web page <http://www.eadmt.com/?action=article&id=22>

The DMT session offers a regular time (50 minutes to an hour) and a safe space to explore the verbal and nonverbal expression of the client's stresses and difficulties. Many clients come to DMT because they are seeking to reach more of their potential and others are referred to a DMT service to address depression, anxiety, disruptive behaviour, emotional learning delays, addictions and other mental health symptoms, as well as unexplained physical symptoms. There is a growing application of DMT in work with war veterans, people surviving childhood sexual abuse and family violence, and in the fields of autism, adolescent mental health, dementia care and eating disorders. It is a mark of the unique benefits of DMT that some of the most difficult people to reach respond to this form of therapy⁴.

DANCE MOVEMENT THERAPIST: SKILLS AND KNOWLEDGE

The dance movement therapist (DMT) is skilled in working creatively with the material brought to a session - whether by way of explorative or descriptive play, the telling of a troubling story, wondering why uncomfortable situations keep happening or why relationships are so difficult to make and sustain.

All these issues are listened to and thought about with the client and a space is offered to explore them through simple movement exercises and playful interaction. Sometimes the movement experience is minimal and can be focused on where the client experiences sensation when they talk about their difficulty or worry. The use of breath and relaxation through mindfulness is often a way to get in touch with the sensing and embodied self and from this point of awareness the work of integration can unfold⁵.

DMT are trained at Master's level programs and upon graduation DMT^{6,7}:

- demonstrates wide range of dance and movement skills and is capable to use the dance and movement in their broadest creative and expressive functions, as well – to demonstrate the capacity to use body-mind concept;
- is able to establish and maintain interpersonal relationships with client(s) and to use oneself effectively, both verbally and artistically, in the therapist role in both individual and group therapy settings;
- is able to assess and evaluate the current state and needs of client(s); to formulate the goals and objectives based on assessment findings; as well – to select and adapt the artistic means of dance movement;

4 About Dance Movement Therapy (n.d.). Retrieved from American Dance Therapy Association web page http://www.adta.org/About_DMT/

5 Ibid.

6 American Dance Therapy Association Standards for Dance Movement Therapy master's programs. Retrieved from American Dance Therapy Association web page <http://www.adta.org/Resources/Documents/ADTA%20Approval%20Standards-2015.pdf>

7 Standard of profession of Art therapist with specialization in Dance movement therapy in Latvia (Mākslas terapijas profesijas standarts). Retrieved from web page of National Centre for Education of the Republic of Latvia <http://visc.gov.lv/profizglitiba/dokumenti/standarti/ps0434.pdf>

- is able to keep ethics, documentation according to legislation and needs of particular institution, as well – to communicate effectively and to work within the multi-disciplinary team;
- masters human anatomy, kinesiology as well as basic knowledge neuroscience as it relates to the theory and practice of DMT;
- theoretical information and practical application relating to individuals, families and groups in their psychosocial and cultural contexts, including knowledge of group processes;
- research in dance/movement therapy and human behaviour;
- knowledge of psychopathology, and diagnostic skills.

RESEARCH IN DANCE MOVEMENT THERAPY

In order to assess the clients as well as to evaluate the processes and outcomes of DMT work, DMT is a research informed practice. As well – research is also undertaken to further the acknowledgement of the profession through dissemination of the research findings in conferences, publications as well as on daily discussions with general society, clients as well as doctors and other members of the multi-disciplinary team in medical, social care or educational setting. Research in DMT can include variety of topics, and methodologies include qualitative and quantitative as well as mixed approaches.

DMT in psychiatry

Emotional eating

- A study led by Bonnie Meekums and conducted in Latvia⁸ explored the effectiveness of DMT in obese women with emotional eating who were trying to lose weight. 158 women were recruited from a commercial weight loss programme: 92 with BMI \geq 28 were identified as emotional eaters and divided into: an exercise control (n =32) and non-exercisers (n =60). The non-exercisers were partially randomised to non-exercise control (n =30) and treatment group (n =30). Using a pre- and post-intervention design, all participants completed all measures on a battery of tests for psychological distress, body image distress, self-esteem and emotional eating. Findings were analysed for statistical significance. The DMT group showed statistically decreased psychological distress, decreased body image distress, and increased self-esteem compared to controls. Emotional eating reduced in DMT and exercise groups. The authors cautiously conclude that DMT could form part of a treatment for obese women whose presentation includes emotional eating.

Depression

- A study conducted in Finland⁹ investigates using body- and movement-based therapy intervention in the treatment of depression. Central to this study is the use of a short-term group form of DMT intervention. The main research question was whether a short-term group form of DMT intervention could decrease the symptoms of depression and anxiety. Depressed participants (n = 21, aged 18–60 years) received 20 sessions of group DMT, and measurements, including psychometric questionnaires, were taken before and after the intervention. The mean score of the primary outcome measure, the BDI, decreased significantly from the pre- (M = 21.67, SD = 5.26) to post-measurement (M = 10.50, SD = 5.50), $t(17) = 10.40$, $p < .001$. Thus, the short-term, group form of DMT intervention had a positive effect on patients with depression.

⁸ Meekums, B., Vāverniece, I., Majore-Dūšele, I., Rasnačs, O. (2012). Dance movement therapy for obese women with emotional eating: A controlled pilot study. In: *Arts in Psychotherapy*, Vol. 29, Issue 2.

⁹ Punkanen, M., Saarikallio, S., Luck, G. (2014). Emotions in motion: Short-term group form Dance movement Therapy in the treatment of depression: A pilot study. In: *Arts in Psychotherapy*, Vol. 41, Issue 5.

- A systematic summary of the last 20 years of research findings – a meta-analysis¹⁰ of DMT interventions and the therapeutic use of dance in 23 evidence-based primary studies for 15 populations (n=1078) shows moderate effects for quality of life and clinical outcomes of depression and anxiety. As well, study yields moderate but consistent effects of improvement of well-being, mood and affect.
- A randomized controlled study to evaluate the effect of DMT on depressive symptoms among institutionalized older adults conducted in Czech Republic by group of researchers led by Hana Vankova, concludes with evidence that DMT decreased depressive symptoms and resulted in more discontinuations and fewer prescriptions of antidepressants in the intervention group than in the control group¹¹.
- A study¹² assessed the profiles of psychological health and changes in neuro-hormones of adolescents with mild depression after 12 weeks of DMT. Forty middle school seniors (mean age: 16 years old) volunteered to participate in this study and were randomly assigned into either a DMT (n = 20) or a control group (n = 20). All subscale scores of psychological distress and global scores decreased significantly after the 12 weeks in the DMT group. Plasma serotonin concentration increased and dopamine concentration decreased in the DMT group. These results suggest that DMT may stabilize the sympathetic nervous system. In conclusion, DMT may be effective in beneficially modulating concentrations of serotonin and dopamine, and in improving psychological distress in adolescents with mild depression.

Conduct disorder and mood problems

- A retrospective study conducted in the USA with 402 predominately white, non-Hispanic adolescents, found out that DMT impacts moods of adolescents regardless of gender of diagnosis¹³.
- A DMT in group study¹⁴ with chaotic and disorganized children ages 5–8 on a short-term inpatient psychiatric unit in a major teaching hospital reveal that DMT in group

10 Koch, S., Kunz, T., Lykou, S., Cruz, R. (2014). (2014). Effects of dance movement therapy and dance on health-related psychological outcomes: A meta-analysis. In: *Arts in Psychotherapy*, Vol. 41 Issue 1

11 Vankova, H., Holmerov, I., Machacova, K., Volicer, L., Veleta, P., Celko, A.M. (2014). The Effect of Dance on Depressive Symptoms in Nursing Home Residents. In: *Journal of the American Medical Directors Association*, Aug2014, Vol. 15 Issue 8.

12 Jeong, Y.J., Hong, S.C., Lee, M.S., Park, M.C., Kim, Y.K., Suh, C.M. (2005). Dance movement therapy improves emotional responses and modulates neurohormones in adolescents with mild depression. In: *The International Journal Of Neuroscience*, Vol. 115 (12).

13 Anderson, A.N., Kennedy, H., DeWitt, P., Anderson, E., Wamboldt, M.Z. (2014). Dance movement therapy impacts mood states of adolescents in a psychiatric hospital. In: *Arts in Psychotherapy*. Jul2014, Vol. 41 Issue 3.

14 Erfer, T., Ziv, A. (2006). Moving toward cohesion: Group dance/movement therapy with children in psychiatry. In: *Arts in Psychotherapy*, Vol. 33 Issue 3.

provides sense of cohesion that, in turn, provides support, and a safe, nonjudgmental atmosphere in which the children are able to work toward attaining therapeutic goals. Changes in behaviour that were observed in the group, and on the unit, included improved impulse control, frustration tolerance, gratification delay, and ability to get along with others.

Stress management

- A randomized controlled trial¹⁵ compared the effect of a DMT group intervention on stress management improvement and stress reduction with a wait-listed control group (WG). 162 self-selected clients suffering from stress were randomly assigned to a WG or a DMT intervention that received 10 group therapy sessions. Stress management, psychopathology and overall distress were evaluated at baseline, immediately after completion of the ten sessions DMT group intervention, and 6 months after the DMT treatment. Results indicate that DMT group treatment is more effective to improve stress management and reduce psychological distress than non-treatment, and DMT effects last over time.

Quality of life

- A study conducted by Iris Bräuninger¹⁶ examined the treatment outcome of a ten weeks DMT intervention on quality of life (QOL). The multicentred study used a subject-design with pre-test, post-test, and six months follow-up test. 162 participants who suffered from stress were randomly assigned to the DMT treatment group (TG) (n =97) and the wait-listed control group (WG) (65). The World Health Organization Quality of Life Questionnaire 100 (WHOQOL-100) and Munich Life Dimension List were used in both groups at all three measurement points. Repeated measures ANOVA revealed that DMT participants in all QOL dimensions always more than the WG. In the short term, they significantly improved in the Psychological domain, Social relations/life, Global value, Physical health and General life. In the long term, DMT significantly enhanced the Psychological domain, Spirituality, and General life. Author concludes that DMT is effective in the short- and long-term to improve QOL.

15 Bräuninger, I. (2012). Dance movement therapy group intervention in stress treatment: A randomized controlled trial (RCT). In: *Arts in Psychotherapy*, Vol. 39 Issue 5.

16 Bräuninger, I. (2012). The efficacy of dance movement therapy group on improvement of quality of life: A randomized controlled trial. In: *Arts in Psychotherapy*, Vol. 39 Issue 5.

Hypochondriasis

- 26 patients participated in the study¹⁷ to test the efficiency of dance movement therapy (DMT) at treatment of patients with hypochondriasis (F 45.2 in ICD-10). For pre- and post-test measurements researchers used Simptom Checklist-90, revised (SCL-90-R), Clinical Global Impression scale (CGI), Hamilton Depression Rating Scale (HDRS), Hamilton Anxiety Scale (HAS), Individually-typological personal questionnaire (ITQ) and questionnaire Level of the subjective control (LSC).
Results of research revealed that the reduction on a subscale of somatization in CSL-90-R has constituted 78%. On CGI scale 42,7% had considerable improvement of a condition, in 34,3% moderate improvement was marked, in 15,7% cases - minimum and 7,3% did not have any changes in a condition. The mean score reduction on HDRS was 54%, on HAS - 40%. In a profile of the person (ITQ) difference in orientation and polarisation of tendencies "sensitivity-spontaneity" has essentially decreased and consequently the probability of somatization of frustration has decreased. According to the LSC test subjective control has grown both within the limits of own person, and in formation of a significant environment, that reflects depression of situational anxiety. Author concludes that DMT is effective enough is well transferred and can be used in the form of monotherapy of patients with hypochondriasis.

Empathy and prosocial behaviour

- Authors claim¹⁸, that coordinated movement fosters empathy and prosocial behaviour. Therefore - by refining kinaesthetic empathy, synchronous and imitated movement, one is to promote emotional/cognitive empathy.

Mental disabilities

- Individuals with Down syndrome encounter a variety of health problems as they progress from childhood to adulthood, many of which are treated with physical therapy. Individuals receiving physical therapy often neglect the necessary exercises due to boredom therefore carers search for more enjoyable forms of therapy. Study reveals that engaging in therapy with dance element, individual with Down syndrome experience the mental and physical benefits of both physical therapy and dance and experience a better quality of life. Combining the functionality of physical therapy and the creative aspect of dance can stimulate and challenge Down

17 Zharikova, A. (2009). Dance movement therapy of patients with hypochondriasis. In: *European Psychiatry*, Vol. 24.

18 Behrends, A., Müller, S., Dziobek, I. (2012). Moving in and out of synchrony: A concept for a new intervention fostering empathy through interactional movement and dance. In: *Arts in Psychotherapy*, Vol. 39 Issue 2.

syndrome individuals physically and cognitively which can improve their memory and increase physical fitness while allowing them to express their emotions¹⁹.

Autism

- In a feasibility study²⁰ team of authors, led by Sabine Koch, conducted a DMT intervention based on mirroring in movement in a population of 31 young adults with autism spectrum disorder (mainly high-functioning and Asperger's syndrome) with the aim to increase body awareness, social skills, self-other distinction, empathy, and well-being. Authors employed a manualized DMT intervention implemented in hourly sessions once a week for 7 weeks. The treatment group (n = 16) and the no-intervention control group (n = 15) were matched by sex, age, and symptom severity. Participants did not participate in any other therapies for the duration of the study. After the treatment, participants in the intervention group reported improved well-being, improved body awareness, improved self-other distinction, and increased social skills. The DMT-based mirroring approach seemed to address more primary developmental aspects of autism than the presently prevailing theory-of-mind approach. Results suggest that DMT can be an effective and feasible therapy approach for autism spectrum disorder, while future randomized control trials with bigger samples are needed.

DMT IN SOMATIC CLINIC

Cancer patients

- - A study, published in Cochrane Database of Systematic Reviews, a highly acknowledged source for information relating research-based-practice, analysed three studies with total of 207 patients, and found out that DMT may have a beneficial effect on Quality of life, somatization, and vigour of cancer patients²¹.
 - Authors of controlled clinical trial conducted in Germany²² state that DMT is an important intervention for cancer patients to enhance coping strategies. Their study investigates effects of DMT (n = 115) in the setting of inpatient rehabilitation based on a pre-post design with a control group as well as a follow-up 3 months later. It was found out that as process factors of DMT, expression of emotions, enhancement

19 Clark, L.M. (2011). Movement Patterns and Quality of Life for Individuals with Down Syndrome: An Overview of Dance as Physical Therapy. In: *A Journal of Undergraduate Research*, Fall2011, Vol. 4.

20 Koch, S., Mehl, L., Sobanski, E., Sieber, M., Fuchs, T. (2014). Fixing the mirrors: A feasibility study of the effects of dance movement therapy on young adults with autism spectrum disorder. In: *Autism: The International Journal Of Research And Practice*, 2014 Feb.

21 Bradt, J. (2015). Dance movement therapy for improving psychological and physical outcomes in cancer patients. In: *The Cochrane Database Of Systematic Reviews*, 2015 Jan 7; Vol. 1. *Cochrane AN*: CD007103.

22 Helmes, A., Weis, J. (2013). Tanztherapie in der stationären onkologischen Rehabilitation. In: *Forschende Komplementärmedizin*, Vol. 20 (1).

of self-esteem, development of the personality, vitality, getting inner balance, and getting in touch with the body have been identified. In terms of quality of life and psychological well-being, the results showed significant improvements with medium to large effect sizes.

Managing hypertension

- Based on assumption that regular physical exercise is considered to be an important part of the non-pharmacologic treatment of hypertension, purpose of the study was to investigate the effects of DMT on selected cardiovascular parameters and estimated maximum oxygen consumption in hypertensive patients. Fifty (50) subjects with hypertension participated in the study. They were randomly assigned to 2 equal groups; A (DMT group) and B (Control group). Group A carried out DMT 2 times a week for 4 weeks while group B underwent some educational sessions 2 times a week for the same duration. All the subjects were on anti-hypertensive drugs. Following four weeks of DMT, paired t-test analysis showed that there was a statistically significant difference in the Resting systolic blood pressure, Resting diastolic blood pressure, Resting heart rate, Maximum heart rate (MHR) and Estimated oxygen consumption in subjects in group A ($p < 0.05$) while there was no significant difference observed in outcome variables of subjects in group B ($p > 0.05$). Authors conclude that DMT was effective in improving cardiovascular parameters and estimated maximum oxygen consumption in hypertensive patients.

Chronic fatigue syndrome

- A study²³ evaluated the influence of DMT on the perception of well-being and functional capacity in women with chronic fatigue syndrome (CFS). Seven women diagnosed with CFS attended a 4-month DMT program. All of them performed a maximal physical test before and after the DMT intervention. Their perceptions of physical and psychological well-being were evaluated with a continuous visual scale. After each session all the patients were asked to write a report at home about their impressions and feelings. Dance movement therapy had a positive effect, both qualitatively and quantitatively, on patients' perceptions of well-being. There were, however, no significant changes in performance on the physical test. Comparing perceptions before and after each session, the perceptions of physical well-being improved by an average of 25.8% and perceptions of psychological well-being by 22.7%. Although we did not demonstrate an improvement in functional capacity, women with CFS reported improvements in their perceptions of physical and psychological well-being after DMT program.

Parkinson disease

23 Blázquez, A., Guillamó, E., Javierre, C. (2010). Preliminary experience with dance movement therapy in patients with chronic fatigue syndrome. In: *Arts in Psychotherapy*, Vol. 37 Issue 4.

- Review²⁴ of 13 studies with DMT with Parkinson patients reveal that two 1-hour dance classes per week over 10 to 13 weeks may have beneficial effects on endurance, motor impairment, and balance of Parkinson patients.
- Group of researchers led by Hiroko Hashimoto conducted a quasi-randomised research²⁵ to examine the effectiveness of dance on motor functions, cognitive functions, and mental symptoms of Parkinson's disease (PD). Six PD patient associations that agreed to participate in the study were randomly assigned to a dance group, PD exercise group, or non-intervention group. The dance and PD exercise groups performed one 60-minute session per week for 12 weeks. Control group patients continued with their normal lives. All groups were assessed before and after the intervention. Researchers concluded that dance was effective in improving motor function, cognitive function, and mental symptoms in PD patients. General symptoms in PD also improved.

Speed of gait in elderlies

- A decreased gait speed in older adults can lead to dependency when the individuals are no longer able to participate in activities or do things for themselves. Thirty-seven senior apartment residents (31 females; Mean age = 80.6 years; SD = 8.9) with lower extremity pain/stiffness participated in a feasibility and preliminary efficacy study²⁶ of 12 weeks (24 sessions). Healthy-Steps dance therapy compared to a wait-list control group. Small improvements in gait speed ([ES] = 0.33) were noted for participants completing 19–24 dance sessions. Improvements in gait speed measured by a 10 Meter Walk Test (0.0517 m/s) exceeded 0.05 m/s, a value deemed to be meaningful in community dwelling older adults.

24 Shanahan, J., Morris, M.E., Bhriain, O.N., Saunders, J., Clifford, A.M. (2015). Dance for People With Parkinson Disease: What Is the Evidence Telling Us? In: Archives of Physical Medicine and Rehabilitation, vol 96, issue 1.

25 Hashimoto, H., Takabatake, S., Miyaguchi, H., Nakanishi, H., Naitou, Y. (2015). Effects of Dance on Motor Functions, Cognitive Functions, and Mental Symptoms of Parkinson's Disease: A Quasi-Randomized Pilot Trial. In: Complementary Therapies in Medicine, retrieved from <http://www.sciencedirect.com/science/article/pii/S0965229915000114>.

26 Krampe, J., Wagner, J.M., Hawthorne, K., Sanazaro, D., Wong-Anuchit, C., Budhathoki, C., Lorenz, R.A., Raaf, S. (2014). Does dance-based therapy increase gait speed in older adults with chronic lower extremity pain: A feasibility study. In: Geriatric Nursing, vol. 35, issue 5.

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