

## The effect of dance movement therapy on improving psychological health: A systematic literature review

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<b>Keyword :</b>	<b>Abstract</b>
dance movement therapy, psychological intervention, psychological health, literature review	<i>Nowadays, psychological or mental health problems are one the problems that require psychological intervention. One of the interventions used to treat psychological health is Dance Movement Therapy (DMT), a variant of Art Therapy. This study aimed to determine the effectiveness of DMT concerning the case variations and age categories. The systematic literature review was carried out using the PRISMA protocol on ten selected journal articles based on predetermined exclusion and inclusion criteria. The results obtained from the review showed that DMT could be implemented in the age range of adolescents to the elderly. DMT can provide effectiveness in psychological problems such as depression, stress, autism, and quality of life. In its implementation, DMT can be combined with other interventions to provide more optimal results.</i>

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## INTRODUCTION

This Dance Movement Therapy (DMT) is considered one the Art Therapy. As its name suggests, each individual uses dance in this therapy to develop cognitive, emotional, physical, and social abilities (Wahyu et al., 2019). Art Therapy itself in the Canadian Art Therapy Association (CATA) is an art therapy that is a combination of the creative process and psychotherapy, which facilitates self-exploration and self-understanding. The use of DMT has been carried out for quite a long time. In western countries, DMT has been used since the early 1950s (Akandere, 2011).

DMT is an experimental therapy that emphasizes four things, namely (1) emphasis on the present experience in order to gain insight by focusing on the present; (2) works directly with the body; (3) the use of this therapy also facilitates nonverbal expression; (4) "backdoor" to the unconscious. The physical sensations generated provide affective access, which can explore verbal and nonverbal sensations. The body, in this case, is the main instrument, and motion is related to the body. Motion in DMT is a concrete form of emotion that is felt and expressed through dance. The concrete form of this emotion, when expressed with DMT, reduces the perceived stress. From a physical point of view, movement can increase muscle strength and mobility and reduce muscle tension (Payne, 2003).

A study revealed that DMT could boost the recovery from psychophysical and psychosocial effects caused by physical trauma such as cancer, heart disease, and neurological disorders

(Akandere, 2011). In art education, dances positively impact children to develop their fantasies, imaginations, and creations freely (Triyanto in Rahmawati et al., 2018). Other benefits found in dance classes in education are good motoric development, social development, and way of thinking and language development in children. This intervention was chosen because it is inexpensive and can be applied to various age groups. The increasing number of studies related to DMT interventions with different characteristics of subjects produce different levels of effectiveness and also diverse research contexts.

DMT program therapy is carried out in a structured procedure consisting of 6-26 sessions conducted throughout weeks-months. Each session in several studies divided the DMT process, namely, *warming up, the dyadic movement section, the Baum circle, and the verbal processing section* (Mastrominico et al., 2018). Research conducted by (Rahmawati et al., 2018) explains that the process of applying DMT contains the following psychological concepts: (1) helping to overcome stress, (2) coping methods, (3) increasing self-efficacy, (4) social support, (5) helps overcome emotional, and mood problems, (6) helps maintain the cognition system, (7) stimulates imagination, and (8) helps the transformation process.

DMT is an intervention that has been used for more than 80 years (Levine & Land, 2016). Therefore, it is not surprising that several previous studies have conducted a literature review that synthesized the research results on the effectiveness of DMT. A meta-synthetic study was conducted by Levine and Land (2016) on qualitative research on DMT for traumatized individuals. Mala et al. (2012) conducted a scoping review on the effectiveness of DMT in reducing depression. Another research in the form of a literature review was conducted by Karampoula and Panhofer (2018) about the role of circular formation in DMT in group interventions. Karkou et al. (2019) conducted a systematic review and meta-analysis of the effectiveness of DMT as an intervention to treat depression, specifically in adults. In addition, there are various other literature reviews on the effectiveness of DMT, specifically for adults with dementia (Lyons et al., 2018) for individuals with autism spectrum disorder (Chen et al., 2022; Takahashi et al., 2019) for parents with mental health disorders (Jiménez et al., 2019; Millman et al., 2021) for breast cancer patients (Fatkulina et al., 2021). These studies are supported by recent studies with other methods on the effectiveness of DMT in people with dementia (Ho et al., 2020); people with autism spectrum disorder (Morris et al., 2021; Scharoun et al., 2014); in depressed adolescents and early adults (Kella et al., 2022); to deal with identity development issues in therapeutic settings (Erickson, 2021).

Based on the description above, it can be seen that DMT is a psychological intervention to overcome various psychological problems. However, no studies specifically examine the problems, forms, and effectiveness of DMT on various participant characteristics and psychological problems. Therefore, this study discusses what psychological problems can be intervened with DMT, the forms of intervention, and the effectiveness. Based on previous research on the implementation of DMT, this study aims to: (1) identify psychological problems with DMT

intervention, (2) identify forms of DMT intervention, and (3) evaluate the effectiveness of DMT. The findings of this literature review research which synthesizes various relevant research results related to the three objectives above, will be beneficial. These benefits can be used by therapists, psychologists, and parties who experience psychological problems in considering the selection and application of DMT as a form of psychological intervention. In addition, this research can be used as a reference for the use of DMT as an intervention for psychological problems that children can use to the elderly.

## **METHOD**

This study is a systematic literature review that uses the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol (Shamseer et al., 2015). Data sources were obtained from several journal databases from 2012-2021. The sources are Google Scholar, Elsevier, Springer, NCBI, and SAGE. The keywords used during the search were "*Dance movement therapy*," "*dance therapy*," or "DMT."

The selection of journals in this study must meet the following inclusion criteria: (1) experimental research, (2) using DMT intervention, (3) having a comparison group, (4) journals written in English, and (5) published in *peer-reviewed* and *full-text* journals. In addition, journals must meet the exclusion criteria, namely research using quantitative methods and avoiding literature review and meta-analysis studies.

Search results using these keywords were obtained from 80 studies. After viewing the abstract, about 50 journals can be used. After further reading, that can be used in writing these ten journals. The results of the selection of journals for each inclusion and exclusion criteria obtained ten journals. The ten journals consisted of 742 participants. The sample's age varies from children to the elderly, starting at the age of 12 to 90 years old. The journals found discuss various psychological problems such as autism spectrum disorder, schizophrenia, quality of life, eating disorder, and depression.

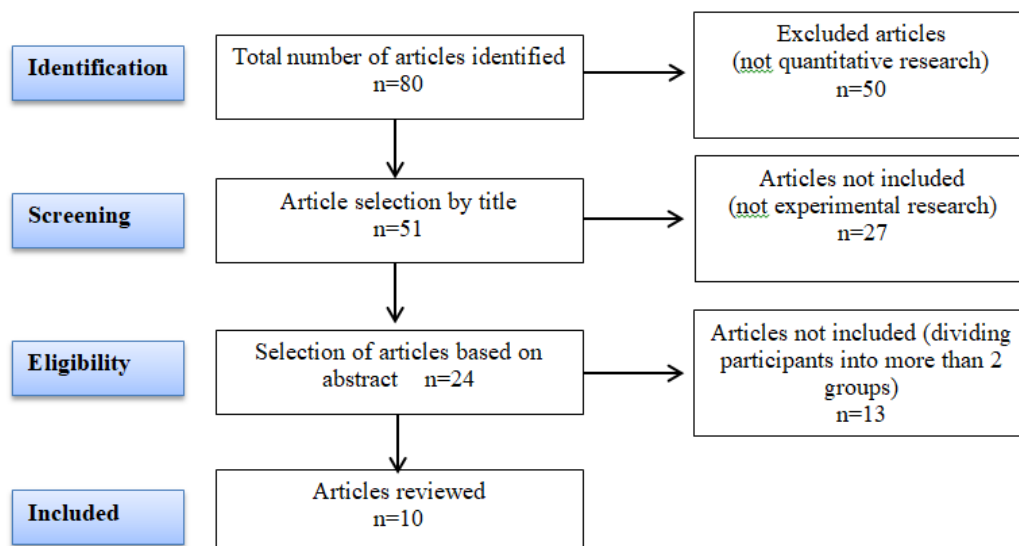


Figure 1. Journal selection process

Most of these research journals used a combination of DMT intervention with well-being, medicine, quality of life, relaxation intervention, and some purely used DMT. The use of sessions for each study varied from 6 to 26 sessions, with a duration of 30-60 minutes. The process of selecting and eliminating journal articles was according to the inclusion and exclusion criteria set out, as shown in the chart in Figure 1.

## RESULTS AND DISCUSSION

This literature review study was conducted based on ten selected journals with several participants (N = 742) summarized in Table 1. Overall, DMT is effective as an intervention for the following psychological disorders: schizophrenia, improved well-being in adults with mental retardation, increased quality of life in cancer and obesity sufferers, reduced symptoms of depression in the elderly, reduced stress levels in parents who have children with autism, reduce emotional eating, and reduce levels of anxiety, depression and improve quality of life in elderly people with cognitive impairment. The effectiveness of DMT is evidence that unexpressed emotions can interfere with psychological health. When these emotions are able to be expressed through the help of dance, it can reduce the level of stress felt (Aithal et al., 2019). Besides helping overcome emotional problems, DMT also helps individuals increase self-efficacy and social support, thereby helping individuals maintain the cognition system for the process of self-transformation (Rahmawati et al., 2018). In addition, from several previous studies that implemented DMT, it was found that DMT was proven to be effective in improving well-being (Barnet-Lopez et al., 2016; Garcia-Medrano, 2021); improving quality of life (Adam et al., 2016; Allet et al., 2017; Bräuninger, 2012) reducing levels of anxiety and depressive symptoms (Adam et al., 2016; Vankova et al., 2014); increasing self-esteem (Meekums et al., 2012).

Movements in DMT are concrete forms of emotion that are felt and then expressed through dance. The concrete form of these emotions, when expressed with DMT, can reduce the perceived stress. From a physical point of view, movement can improve muscle strength and mobility and reduce muscle tension (Payne, 2003).

However, there is one journal that wrote that DMT does not have a significant effect on increasing empathy in adults with autism (Mastrominico et al., 2018). The insignificance of the study was caused by several subjects who did not complete the questionnaire given, resulting in a lack of statistical data and information.

Research with the meta-analysis method conducted by Koch et al. (2014) revealed that DMT is effective for anxiety disorders, autism in children or adults, breast cancer, cystic fibrosis, depression, dementia, eating disorders (emotional eating and obesity), schizophrenia and stress. The use of DMT itself can be applied to various groups ranging from children to the elderly. DMT sessions can be customized depending on the needs. DMT can be not only a single intervention but can also be combined as a supportive intervention. The combination of interventions is relaxation and medical drug consumption for psychological disorders that require treatment, such as schizophrenia or exercise.

In line with the objectives of this study, it can be seen that various psychological problems can be intervened with DMT. For this reason, practitioners in the field of psychological intervention can consider DMT as one of the psychological interventions that can be used to overcome psychological problems faced by clients. Of course, the use of DMT needs to be adjusted to the conditions and needs of the client. Furthermore, this literature review shows that DMT interventions can be used independently or combined with other interventions. Thus, the choice of DMT intervention, whether alone or in a combination of courses, must be adjusted to the client's conditions and needs to obtain the most optimal intervention results. From this literature review, it was also found that there was only one intervention that was ineffective because the client did not complete the assessment thoroughly. In this case, practitioners must ensure that assessment evaluation is necessary to be done as an integral part of every intervention, including DMT.

**Table 1.** Articles Used in Literature Review to Determine the Impact of DMT on Improving Psychological Health

Author	Sample characteristics	Total Sample	Age	TG Intervention n	Intervention duration	CG Intervention	Tools	Result
(Mastrominico et al., 2018)	<i>Autism Spectrum Disorder</i>	57 Subjects TG (n=35), CG (n=22)	14-52 years old (M =22.5; SD = 8.52)	DMT	10 sessions 60 minutes each	<i>Waiting List</i>	SANS-scale, Cognitive and Emotional Empathy Questionnaire (CEEQ)	Showed no significance in empathy between groups ( $\chi^2(12) = 2.75, p = 0.997$ )
(Lee et al., 2015)	Schizophrenia patient	38 Subjects TG (n=18), CG (n=20)	n.m	DMT and medical combination	12 sessions 60 minutes each	Medical intervention	State-trait anger expression inventory (STAXI), Beck depression inventory (BDI), Positive and negative symptom scale	DMT, combined with medical treatment, shows the effectiveness of reducing negative symptoms
(Barnet-Lopez et al., 2016)	Adults with mental retardation	42 Subjects TG(n=22), CG (n=20)	12-48 years old  (TG M = 47.27, SD 11.67) (CG M = 48.15, SD 12.46)	DMT	26 sessions	n.m	HFD = <i>Human Figure Drawing</i>	There was a significant increase in well-being in the experimental group ( $p = 0.007$ ) compared to the control group ( $p = 0.560$ ). DMT is a place-based approach for adults with ID to provide support and improve well-being

(Bräuninger, 2012)	<i>Quality Of Life</i>	162 Subjects TG (n=97) CG (n=65)	16 -65 years old (M = 44, SD = 9)	DMT	10 sessions	Wait list	Brief Symptom Inventory, Coping and Stress Questionnaire [Stressverarbeitungsfragebogen] (SVF) 120	Dance movement therapy is effective in the short and long term to improve quality of life (p < .02)
(Sturm et al., 2014)	Low <i>quality of life</i> in cancer patients who are currently undergoing treatment	40 Subjects, TG (n = 20), CG (n = 20)	>18 years old (TG M = 49) (CG M = 50.5)	DMT	10 sessions	Standard of care Weekly assessment	Quality of life was assessed using the European Organization for Research and Treatment of Cancer, Quality of Life Questionnaire (EORTC QLQ-C30 German)	There is an effect of DMT on changes in blood pressure in the elderly. TG mean±SD 5.95±1.701, end-of-study mean 3.8±1.542, p=0.001, reduction of 36%) compared with CG mean 4.95±0.999, unchanged 5.0±1.556, p= 0.887); Social, emotional and performance function scale (p<0.05)
(Vankova et al., 2014)	Symptoms of depression in the elderly in nursing homes	162 subjects, TG (n=79) CG (n=83)	>60 years old (M = 83.11, SD = 7.98)	DMT	12 sessions	Wait list	Geriatric depression scale (GDS)	DMT-based exercise can reduce symptoms of depression. The experimental group increased (p = 0.005) while the control group tended to show more symptoms of depression (p = 0.081) GLM analysis was significant (p = 0.001)

(Allet et al., 2017)	people with obesity	67 subjects TG (n=34) CG (n=33)	n.m	DMT	16 weeks	Treatment program	Impact of Weight on Quality of Life-Lite (IWQOL-Lite) questionnaire	The combination of quality of life education and DMT has a positive influence on the quality of life of people with obesity. (p = 0.023)
(Aithal et al., 2019)	Parents of children with autism	11 subjects TG (n=5) CG (n=6)	28-35 years old (M = 29,6)	DMT	6 sessions	Wait list	Parenting Stress Index-Short Form (PSI-SF) and Hamilton 9 Depression Rating Scale (HAM-D)	There is a decrease in the stress of parents who have children with autism after DMT intervention
(Meekums, 2012)	Women on a weight loss program	79 subjects TG (n=24) CG (n=55)	M = 39.1	DMT	5 weeks, twice a week, 90 minutes each	Combination with no treatment and the presence of other treatments such as sports	Dutch eating behaviour questionnaire, Clinical Outcomes in Routine Evaluation – Outcome Measure (CORE-OM), The Situational Inventory of Body Image Dysphoria (SIBID), The Rosenberg Self-Esteem Scale	The TG group showed a decrease in pressure on body image, an increase in self-esteem compared to the control group. Emotional eating was also reduced in the DMT group combined with exercise



(Adam et al., 2016)	Elderly with anxiety and depression and low quality of life	84 subjects TG (n=44) CG (n=40)	60-80 years old (M = 70.87, SD = 8.19)	<i>Poco-poco dance</i> and relaxation	12 sessions 60 minutes each	Relaxation	Anxiety and depression were self-assessed using the Hospital Anxiety and Depression Scale and QOL was self-assessed using the Quality of Life in Alzheimer's Disease Questionnaire.	DMT and Relaxation Intervention can reduce the level of anxiety and depression and improve the quality of life and cognitive function of the elderly with anxiety disorders ( $p < 0.001$ ), depression ( $p < 0.001$ ), Quality of life ( $p < 0.001$ ), cognitive disorders ( $p < 0.001$ )
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Information:

CG= Control Group; TG = Treatment Group; M = Mean; SD = Standard Deviation; n = Number of participants; DMT= Dance Movement Therapy; QOL = Quality of Life; n.m = Unwritten age

## CONCLUSION

DMT effectively improves psychological health and can be applied to children up to the elderly. Various psychological disorders were intervened using DMT, such as schizophrenia, depression, stress, quality of life, and emotional eating. DMT can be used as a single intervention or combined with other interventions. The following research suggestion is to add more studies with other variants of psychological disorders in order to get a varied literature study.

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