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## Effect of Dance Movement Therapy on Mental Health

### *Review of Literature*

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**Abstract:** Dance movement therapy (DMT) has been gaining recognition in recent times. It uses movement to promote the emotional, social, cognitive, and physical integration of the individual. Through this review of literature, the aim is to find out how dance movement therapy helps individuals with mental health issues and beyond that. For this literature review, papers were taken from the year 1990 - 2021, and these papers explored various mental health issues from anxiety, depression, schizophrenia, and also how it helped people having body image issues, trauma, etc. More research is required in this area, in order to verify it more properly, with a larger sample size inclusive of gender, age, number, and place of origin, a longitudinal study, and a proper control group. It was found that DMT is effective in various areas in a positive way, an effective technique in order to heal mental health issues, body image, and uplift an individual's personality, and is a treatment method which requires no medication.

**Keywords:** *dance, dance movement therapy, review of literature, mental health.*

## INTRODUCTION

The topic chosen for my review of literature is the effect of dance movement therapy (DMT) on various mental health issues. The focus could also go on to extend to DMT alone to treat various other conditions as different illnesses, life circumstances also affect our mental well-being. The variables of my research are mental health and dance.

Mental health is the overall cognitive, emotional, and behavioral well-being. The way we expect, feel, or act gets affected if we aren't doing mentally well, and through this topic, I would like to explore how through a basic thing that most individuals enjoy doing without being a professional could help them heal and live a better life. As for this topic, aside from dance therapy, explore how other sorts of art could also help in overcoming an individual's psychological state issues.

DMT involves various dance movements by moving various muscles of our body to the sound of the music or without, this leads to a complete release of our muscular tension and mental tension. It is the psychotherapeutic movement in order to promote emotional, social, cognitive, and physical integration. Dancing could involve doing it on feet and by sitting as well, that is why it is applicable to every individual. Dancing along with relaxation also leads to keeping us fit, developing gross motor skills, increasing our confidence and self-esteem, and helps in being more creative.

Dance as a whole helps in the integration of the physical and emotional part of an individual.

The mix of music with exercises that are easy for anyone to do, and sensorial stimulus is what dance and movement therapy (DMT) comprises and the plus part is that it is a drugless treatment. The movements of dance have been used for centuries to express different emotions. It has been used as a form of art in rehabilitation centers since the 1950s in the western world. Through the art of dance, we can express what is going on within us, it showcases our internal energy to the outside.

DMT has not only been said to be successful in the healing of depressive symptoms but also during trauma, diseases such as cancer, heart disease, and neurological impairments.

The whole process of DMT makes one's mind free, helps to improvise, makes you feel empowered, it reduces one's alcohol consumption, anxiety, depression, anger, stress, and also hostile feelings. It leads to an overall psychological improvement and makes an individual feel better about themselves.

The various questions explored through this paper are:

1. How does DMT help in healing?
2. Is it applicable to everyone irrespective of age, sex, disabilities, and mental fitness?
3. Do you need a specialist who can help individuals through DMT?

This is a field of study that requires to be explored with more research and quantitative studying as well as qualitative. It as an activity is not limited to only one culture or country, it is something that is widely accepted and known to everyone around the globe, hence it can be applicable universally. Dance is something that helps one to express their emotions and if it could help people out there to health through this art it would be the best.

**Andre Lesté, et. al. (1990)**, investigated the *effects of dance on anxiety*, how modern dance would help in overcoming anxiety while controlling variables such as physical exercise and music.

The subjects for the study were taken from two colleges and a total of 114 students were taken for the study. There were 4 groups taken into the test, the first being a dance group who is already involved in the activity of dancing, second, a sports group which is similar to the physical activity involved in dancing, third being the music group which has similarity in its aesthetic sensitivity training to dancing and the last group being the mathematics groups which had no connect to dance whatsoever. There were a mix of men and women in the study though there were a maximum of women, and the age did not differ much, the mean age was 19.9 years.

Dance was a variable but the other accompanying variables in the study included age, sex, attitude towards dance, any past experience the different field of sports, dance and relaxation.

Pre-testing for the subjects were done at the beginning of their first term after 3-4 weeks of adjustment to the course, these tests involved a battery of tests. Questionnaires were also given to the subjects and the post-testing was done during the middle of the second term.

This study used the Spielberger State-Trait Anxiety Inventory in order to conclude the effect of dance on anxiety. The trait anxiety was also measured. The correlation between the state and trait anxiety was 0.64 which shows

that there is a moderate positive correlation, and the correlation of the state anxiety's post and pre-test was 0.43 which can be compared with the Spielberger's data.

Along with these tests there were also two other questionnaires where the first one included questions about previous experiences in sports, dance, physical exercise and relaxation before they began their course since these could affect how the course will have an effect on them. The second test was to find out the attitude of individuals towards dance, as there is a possibility those with a positive attitude will be more encouraged to do the course also there could be a possibility of an experimenter-type effect wherein individuals put in answers that are socially desirable but when they take the course the results could be completely different.

At the time of coming to the results, only those who submitted the questionnaires were taken into consideration, therefore from 114 subjects only 84 were considered. It was noted that the mathematics group and sports group did not differ significantly from each other, but they differed from the music and the dance groups. From this study, this particular course that was given to the students it has been concluded that dance was associated with the reduction in anxiety levels. There are some important points to be noted that if physical activity did reduce anxiety, then the sports group would've already shown lower anxiety levels and the same is for the dance group, if they were already involved in dance, they should've had lower anxiety levels from before itself; a further investigation is required in terms of a longitudinal study to verify this. There were no effects of anxiety shown in the music and sport groups, hence it can be concluded that when music is combined with physical activity it does help in reduction of anxiety apart from when they are done alone. To understand this effect better, subjects should be taken at random and not from a particular class and particular group, in this study though there were 84 subjects, in a way there were only 4 since they all belonged to 4 different particular groups. This topic is definitely in need of further investigation.

**Meredith Ritter, et. al. (1996)**, this study is the evaluation of the *effects of dance/movement therapy: a meta-analysis*, it addresses the methodological problems which have affected DMT literature and the evaluation of quantitative studies DMT through meta-analytic techniques.

This particular study was done to calculate the standardized effect sizes of the case control studies of DMT and so as to supply summary statistics that reflect the typical change in association with DMT compared to controls, this study also has been done to examine the effectiveness of DMT across various samples namely children, psychiatric patients, handicapped and the elderly as well as various disorders namely anxiety, schizophrenia and developmental disabilities with the use of meta-analysis.

Dance has been linked to healing and has also been used to influence fertility, birth, sickness, and death. During these years most of the research was based on case studies and there were only limited quantitative studies. The review of literature showcased that DMT had a positive impact on various developmental and psychiatric disabilities. According to the studies that were read for this review it was found that DMT has therapeutic value for a healthy person without any disorders, or ailments but it requires further studying. In the case of children, it was seen that there was significant improvement in case of those who had childhood disorders, learning disabilities, those who have been abused, in relation to DMT, there have been also improvements in mentally retarded children but there is no evidence of statistically there being any improvement. DMT has also shown to lead to improvement for those kids with visual impairments, handicapped children, but the area of children with psychiatric disorders still remains unexplored.

When it comes to adults it has been seen to be successful for psychiatric patients, also for passive observers but for schizophrenia there have been mixed results. For those who are mentally retarded or physically disabled, DMT helps those who cannot express themselves verbally.

Lastly, for the elderly, DMT has proven to be an escape for them and helps in various areas such as memory, alertness, judgment, stability, self-esteem, anxiety, and reality orientation. Though there is more research required in these areas.

Other individuals also had partial improvements by DMT, such as breast cancer surgical patients by Authentic Movement Treatment (AMT), forensic adults, alcoholic women, anorexic and bulimic patients, language disordered individuals, substance abusers, multiple personality patients, and individuals undergoing trauma.

Hence, through this meta-analysis it has been concluded that DMT is an effective treatment for patients who are suffering from a wide array of symptoms, it has been seen to be an effective treatment for anxiety, it is said to benefit adults and adolescents more than children. Further research with more adequate control groups and use of standardized measures would help to strengthen the current research.



**Letty J. Mills, et. al (2002)**, their research is *her body speaks: the experience of dance therapy for women survivors of child sexual abuse* in which a qualitative study was done to attempt to understand how dance therapy effects change in lives of their clients. Their research question was what was the lived experience and the meaning of dance therapy for the individuals who had found it to be facilitative of their personal growth and healing. Those people were taken into the study who considered dance therapy as a facilitative of their personal growth or healing. In order to make sure that the participants have exposure to this kind of therapy they were given at least 6 sessions prior to their dance therapy. And they needed a minimum requirement of 1 year gap since the completion of their dance therapy and a maximum of 5 years. The participants were taken into the study by word of mouth or through social service agencies and from the studios of the dance therapists. Most of the participants were women. There were 5 participants ranging from the age of 25-48 years and were Caucasian women of European American ancestry. Individual in-depth interviews were used to gather data and phenomenological data analysis was drawn from Colaizzi to analyze the data.

There were several themes found in common between the subjects, the 6 themes namely were reconnection to their bodies in which they experienced a sense of wholeness and integration that was lost for several years, they felt the permission to play in the sense that they felt that this therapy would involve them crying and being upset and angry but they found that it provided them playfulness and gave them a balance and relief from the emotions that made them feel heavy, then there was a sense of spontaneity which made the subjects feel that their movement was free, self determined, natural and uncontrived, they also felt a sense of struggle as this was something new that they were experiencing, and also they were feeling embarrassed by this of an approach, there was a sense of intimate connection, they felt a unique emotional connection with others in the dance therapy without words by just moving together or physically connecting and lastly they felt a sense of freedom where they felt a freedom of choice as the therapy was made according to them, their needs, agendas and comfort levels.

**Young-Ja Jeong, et al. (2005)**, have assessed in this study if *dance movement therapy improves emotional responses and modulates neurohormones in adolescents with mild depression*. For this study, 40 middle school seniors from Korea were chosen as subjects and were randomly assigned in the treatment and control group. Initially the 347 students were made to fill a questionnaire namely Beckman Depression Inventory, from which 112 were selected and they were also further diagnosed on various lines after which the subjects were down to 51 and from them 40 were taken randomly and assigned to groups. Parental consent was taken for this study. The study takes into consideration the subsequent profiles for assessment, the psychological health and therefore the changes within the neurohormones of adolescents who are detected to possess mild depression after 12 weeks of the study. In order to measure the psychological distress subjects filled out a self-report inventory of emotional distress, the Symptom Checklist-90-Revision (SCL-90-R), for measuring neurohormones, the plasma serotonin and dopamine concentration were measured using high performance liquid chromatography with electrochemical detection at 0.65 V. For determination of plasma cortisol concentration commercial radioimmunoassay kits were used.

Therapy sessions for the treatment involved 45 mins of DMT sessions 3 times a week spread across 12 weeks. They were based on 4 themes namely, awareness of the body, room and group, movement expressions and the symbolic quality of movement, movement, feeling, images and words and lastly differentiation and integration of feelings and each of these themes had sub-themes as well. The control group did not participate in anything. Analyzing was done by using repeated measures analysis of variance using SAS software. The unpaired t-tests were used to compare demographic data between the two groups and paired t-tests to compare values at the start of the study and after 12 weeks.

The results showed that there were improvements in the negative psychological symptoms by 12 weeks of DMT in the treatment group and substantial changes in the levels of serotonin and dopamine. It is found that these improvements could be a result from physiological changes such as muscle relaxations and the change in the concentration of the stress hormones, modulation of serotonin and dopamine production as concentrations of serotonin and dopamine are directly or indirectly related to fatigue, stress, insomnia, and psychological symptoms.

Hence, it can be concluded that DMT has positive influences on adolescent girls with mild depression and it does modulate serotonin and dopamine concentrations.

Though the study has its limitations being a small sample size, gender biased and a lack of equivalent exercise control group. There is a need for more further randomized studies.

**Amanda Haboush, et. al. (2008)**, evaluated *ballroom dance lessons for geriatric depression: an exploratory study where* in the purpose of the study was to test if ballroom dance can have a positive significance in lowering depression score and the hypothesis for the study was if the subjects who received the lessons would have lower depression score than those who were on the waiting list control and the secondary hypotheses was to see if self-efficacy, resistance and hopelessness would be significant predictors of outcome and also these construct were selected to study because of their salience in the study of depression.

In this study 25 community-dwelling depressed older adults were recruited through the community newspaper ads and flyers. The average age of the participants was 69 years and 67% of them were females. Half of the subjects were staying alone while others with one person at least.

The measurements for the study were the Hamilton Rating Scale for Depression to assess the depression measures and the Geriatric Depression Scale. The overall psychopathology was measured through the Symptom Checklist 90 and Global Severity Index (GSI) was used.

Three measures were used in order to evaluate the participant characteristic, The Hopelessness Scale, the Therapeutic Reactance Scale and the measure of self-efficacy developed for this study.

The subjects underwent a pre-treatment evaluation. The study included the treatment group to have one lesson per week for 8 lessons within 8 weeks. And the participants were then evaluated after the completion of the lesson and then after 3 months for a follow up.

From this study it was noted that participants gave positive feedback and showcased that the dance lessons were enjoyable and well-received.

**Gunter Kreutz (2008)**, evaluated, *does partnered dance promote health? The case of tango Argentino*. The aim of the study is to evaluate if partnered dance in context to the “cultures of fitness”, and the purpose was to investigate the dancers of tango Argentino and to explore the potential health benefits in the group. Method of measuring was done by giving them a four-page questionnaire and participants and informal interviewing was also done along with review of literature. There were 110 subjects in the study from two western European cities, namely Nijmegen (Netherlands) and Frankfurt and Main (Germany) of which 41.4% were female with their mean age being 37 years.

The results showed that the dancers were characterized by high-level education and socio-economic status. It was seen that motivation appears to be predominantly driven by both hedonistic and social factors. Most of them had started tango in their 30s, tango is also a very important activity which involves the opportunity of moderate physical exercise, social interaction, and emotional reward. The activity of tango was seen to be a primary leisure activity. This study shows that tango is considered as a leisure activity, but further research must be done for it to be helpful in the healing of mental health.

**Mehibe Akandere, et. al. (2011)**, in this the researchers studied the *effect of dance over depression*, depression is the state of mind that distorts our feelings and perceptions, along with the slowing down of our movements because of energy drain out. Along with physical changes it also leads to one to be alone all the time which affects their social relations. Depression is said to be twice more prevalent in females than males. Desperateness and sorrow, characteristics of depression, these episodes of depression can last for months. In this study to examine the effect of dance over depression, 120 healthy male and female subjects were taken, and their ages ranged from 20-24, they were explained all the risks beforehand about the investigation. In order to test the subjects, the Beck Depression Scale was developed for pre and post-tests. The subjects were divided into two groups, one who was given the therapy and the control group who was given no training. The subjects given training, had regular activity for 8-10 hours a week and 3 days a week, the entire study lasted for 12 weeks. The two types of dances included were Rumba and Vals. It should also be noted that none of the participants complained that any kind of medical problems could come in the way of the testing and affect the scoring.

There were various statistical tests used to analysis being SPSS statistical program for data analysis, Kolmogorove Smirnov test for determining normal distribution of the dependent variable, Levene test for homogeneity of variance, paired t-tests for significant difference for each of the dependent variable and unpaired t-tests for comparing of the dance trained group and control group.

The results of the test showcased that there was an effective difference in the depression levels of those who took part in the dance training along with low levels of anxiety but no difference in the control group.

**Lynn Froggett, et.al (2011)**, The aim of this study is to find out *dance as a complex intervention in an acute mental health setting: a place 'in-between'*, to see what kind of effect dance would have on their inner world experience and to find out if it would have a positive contribution to hopefulness.

This particular programme involved a professional dancer from a local dance institute and a hospital staff was interested in increasing their cultural activities. For this study a mixed-method approach was adopted wherein the interrelationship of the individual and their environment is being tested. This entire programme was being documented with consent of the subjects. A rapport was also built with the subjects in order to take their consent regularly. It was decided that this programme would only be offered to the hospital staff who were female service users only and 1 man was included from the ones who were documenting this programme.

For the testing of the changes in hopefulness individuals were tested using Herth Hope Index (HHI) which has Likert-type questions in addition to semi-structured interviews wherein they didn't ask for opinions or generalizations but gathered descriptions of various events and experiences.

The findings of the study out of the 36 service users whose ages ranged from 20s to late 50s, only 11 participants completed the HHI before their 1st or 2nd sessions and only 4 participants by the end of it, hence no significant results could be obtained but from the few participants it was found that there was a slight to no decrease in hopefulness and also there were confounding variables in the environment that could attribute to various changes to the testing.

It was taken note that relaxation was mentioned frequently as it released tension and distracted individuals from anxiety and the elevations of their mood. The subjects also mentioned that when they were there in a group it made them feel included, and they felt joyful to share their culture with others. The whole programme involved mirroring movements which led to non-verbal communication, joy, laughter which helped individuals overcome self-consciousness and emphasized solidarity. The entire connection of the mind-body allowed the internal experience to be expressed through the movements.

This dance programme has modified the social life of the people within the hospital, impacted their feelings of hopefulness and the inner world experience of the participants. Through this programme subjects felt elevated in their moods and felt a sense of achievement. With the onset of classes subjects started getting used to the flow of movements and they started looking very natural. The interview helped to gain a proper overview of how the programme affected the individuals.

There are few limitations to the study as the sample size was very small and from that also only few completed the HHI. Time and resource limitations also came in between the study.

It can be concluded that this study showcased that DMT can elevate the mood, relieve anxiety, increase social interaction and help one to connect with their emotions and their body.

**Solange Muller-Pinget, et. al. (2012)**, the aim of their research was to find out if *dance therapy improves self-body image among obese patients*, does it improve the mental representation of obese patients about themselves. Obesity and disturbed eating behaviours lead to low self-esteem and a distorted body image. The hypothesis for this study was to see if dance therapy would allow obese patient to develop body consciousness and improve their mental representations and further on being able to own and transform their issues in order to improve their psychic and somatic self-body image. These changes would then turn into an improved self-image, self-esteem, changes in their eating behaviour, motivation to look after their body and health. The changes in their body were evaluated in four dimensions namely physical, psychological, cognitive, and social.

The method of the research was done by selecting 18 obese patients who were taken in a longitudinal study wherein they were signed up into a dance therapy workshop (DTW), which lasted for 36 weeks. Patients had to attend dance sessions covering 2 hours per week and their progress was noted at the beginning, midweek and at the end of the study.

Dance therapy was suggested to the patients in place of physical activity workshops.

There were criterias for those who could be included in the study, only those of BMI > 30 and able to walk 10m without assistance and the exclusion criteria was anyone with mental diseases such as psychosis that would interfere with group therapy, foot ulcers, orthopedic surgical or neurological issues.

Through the 36 weeks, patients were involved in group therapies, they worked on their posture, mindful walking, tension relaxation, body image and movement, they also learned to reevaluate their body image using observation tools.

A typical workshop included warm-up, then they started to work on relaxation and breathing exercises, they understood how thoughts and feeling of their mind could be expressed in terms of bodily movements. The last



phase of the workshop included the exploration phase wherein they choreographed their own set of dances which revolved around a personal theme and through this they learned to inhabit their personal space and interact with their surrounding space. Post this they would give a summary of their dance verbally to explain what they were trying to explain through their dance along with drawings.

Evaluations to check if there were changes in their life were done using the Impact of Weight on Quality of Life (IWQOL)-Lite measure, they were given a questionnaire that was specifically designed for obese patients, this survey focused how their weight affected their social and professional life, self-esteem, sexual life and physical function. The evaluation of their body consciousness and mental representations was done through the Laban movement analysis and the evaluation of their developmental movement patterns from Cohen.

The statistical analysis showed that the quantitative variables were expressed as means and standard deviation, because of the limited sample size the evolution of each of the variables through the time evaluated using the Friedman's test and the comparison of the results at three different times.

The result of the study shows that there were improvements in the following areas: body consciousness and mental representations, posture, mindful walking, patterns of motor development and though there was an improvement in tension scores the patients had difficulty in releasing tensions on a daily basis, and all of these achievements were irrespective of changes in their body weight. Patients enjoyed performing the activities and it enhanced their positive feelings.

The entire process of turning their negative thoughts into positive was a lengthy process, it was a time of reconstructing an absolutely new relationship with their body. The whole concept of dance therapy workshop, being with a peer group helped coming out of the fear of being in front of people and this helped them to join workshops in their community. They started to look at their as articulated and fluid rather than just a piece of block.

The IWQOL-Lite results showed significant improvement only in physical function and total score out of 6 components which included self-esteem, professional, social, and sexual life.

Dance therapists' hand-in-hand can also share improvements with healthcare professionals as well psychosocial professionals.

Hence, through this entire study we understand that dance therapy does help obese patients to improve their body consciousness, self-body schema, mental representations, somatic and psychic consciousness which is associated with their body image.

This study has very well explained how dance therapy helps obese patients. It gives an entire overview of different areas of improvement and areas if they did not see improvement. Though it would have been better to know the sex of the patients that were evaluated since dance is always connected towards women and it would help in understanding better if the therapy would work on both the genders or not.

**Marie-Sophie Kiepe, et. al. (2012)** in this study has evaluated the *effects of dance therapy and ballroom dances on physical and mental illnesses: a systematic review*. In this systematic review, only those studies were included which had interventions of dance movement therapy (DMT) and ballroom dances. The target population being patients above 14years with physical or mental illness, those studies were excluded which examined schizophrenia as it has been already said to be a good therapeutic option. There were 11 randomized controlled trials (RCTs) and they were from the USA and Scandinavia, with more female patients ranging from 18-84.5 years of age. It was noted that there were positive impacts of DMT for patients with breast cancer as it improved the quality of their life, their shoulder range and their body image. It was also seen to be helpful for individuals going through depression as it decreases their psychological distress and increases their neurohormones. Ballroom dances were seen to improve balances and coordination of patients with Parkinson's disease and those with heart failure classes I and II.

The papers had their limitations as investigators were not blinded, randomization was not proper, and the sample sizes were small with most being less than 100 subjects and the tracking time was over a very short period.

Also, the kind of dance therapy for the patients should be taken into consideration as when it comes to dancing with a partner, it is not advisable for those with depression, some patients may also get frustrated during ballroom dances as they wouldn't be able to learn the dance steps as quickly as they expected.

The dance therapist should be a qualified individual as many times they are not aware of the patient's history, and this could affect the intervention.

**Hana Vankova, et. al. (2014)**, this research was conducted to evaluate *the effect of dance on depressive symptoms in nursing home residents*. The study concentrates on the older population, in this, a randomized control trial was conducted, and dance intervention was designed namely Exercise Dance for Seniors (EXDASE). There have been a lot of studies about the effects of DMT on older people but not particularly those staying in nursing homes. The study was conducted in 7 nursing homes of Czech Republic. 1278 individuals were chosen as they met the criteria of study, which included being a permanent resident of the home, 60+ years of age, a Mini-Mental State Examination score of 15+ and no changes in the antidepressant medication given so there is no bias in the study. From these residents, 254 participants were taken in and were randomly assigned in the intervention or the control group, out of which only 216 agreed to participate. There were a lot of people who backed out because of various reasons, and these led the study having a total of 162 participants, with the intervention group having 79 participants and control group with 83 participants. The mean age of the subjects were 83 years and mostly included women. The dance classes were designed accordingly also for those who were dependent on activities of daily living (ADL) or instrumental ADL (IADL) for instance those who were wheelchair or those with cognitive impairments. The sessions were for 3 months long, for 1hr once a week and included a 10-minute warm up, 40-mins of the main training and a 10mins cool down. The sessions were accompanied with suitable music and the dances were a variety of ballroom dances namely, foxtrot, waltz, cha-cha, can and a combination of them. The classes were made enjoyable and on the other side, the control group were involved in their regular activities. The various tests for analysis were the Barthel; Index which was to assess the degree of the participants independence in their daily tasks. IADLs were assessed by asking questions which revolved around advanced daily tasks. This test included walking and sitting back in a chair. The results of the test were that participants of both the groups experienced difficulties. The subjects' self-rated health was evaluated by a single-item measure where the participants would rate their overall health on a scale which had 5 points. The MMSE scale helped to assess global cognition. GDS was used to assess depression levels. The cut off score for depression was 6 but those with even 5 symptoms were taken into consideration, and 43% of them had high levels of depressive symptoms. Independent sample t-tests or chi-square tests were conducted from which no difference was found between the control and intervention groups. The paired sample t-test showed positive improvements in the intervention group and control group showed worsening of their symptoms. It is also to be noted that those who were taking antidepressants were more depressed than those who were not.

Hence, from this study it can be concluded that DMT can reduce depressive symptoms inclusive of the dance and music being familiar with the older adults, being in a group than alone also helps in the improvement of their self-confidence and feeling of belongingness. From the study it is found that DMT works positively for both groups who take antidepressants as well as those without.

There are some notable limitations to the study as well, most of the participants were women, participation of the subjects was not random, and it should be researched if these benefits from a session of a few months can last for a long time.

**Brooklyn Levine, et. al. (2015)**, conducted a meta-synthesis of qualitative findings about dance/movement therapy for individuals with trauma, when it comes to trauma it has been said that engaging a body which has been through trauma may help in the reduction of the length of the treatment by addressing and helping to connect the different thoughts, feelings, neurobiology, and somatic responses in survivors.

This study aims to combine findings from already published literature and to develop a body-oriented intervention which can be used by mental-health care professionals to deal with trauma patients.

A meta-synthesis study has been conducted for this study and in this there are nine studies that have been investigated which ranged from 1 - 294 participants, the age of the women ranged from 5-38 years and the men were all adolescents. Qualitative data was collected in the form of open-ended and semi-structured interviews, case study and ethnographic observations. It included qualitative studies by Sandelowski and Barroso. There were 4 stages involved in this process, the first three involved searching for the literature, following the inclusion and exclusion criteria, and seeing if they were worth the quality.

The results of this study showcased four themes to be followed in the making of the manual for the treatment plan of the therapy, as follows: a) making the connection between mind and body, b) increasing mobility and the range of movement, c) creating a healthy physical relationship with yourself and others, and d) creating a new relationship with movement. This was the last stage where the themes were integrated to the DMT practice.

Analysis of this study involved a narrative review and qualitative studies in which primarily they were case studies.



There are limitations in this study as the sample size of just nine studies is relatively small to come to conclusions, the study as a whole has no study which talks about how DMT would work on adult men, the studies are mostly conducted in Africa, which is a country where dance is used as a form of expression of emotions, celebration of rites of passage, commitment to interpersonal relations and not merely for entertainment purposes and one study is from Israel.

Thus, from this study we can conclude that DMT does help in evolving a mind-body connection and this can help in healing from trauma, the findings of this study can be used to make a manual revolving around the 4 themes which can be used for intervention by mental health care workers.

**Katarzyna Filar-Mierzwa, et. al. (2016)**, the aim of this study is to research the effect of dance therapy on the balance of women over 60 years of age: *The influence of dance therapy for the elderly*, to evaluate if dance therapy can help in the balance and reduce the risk of older women falling, it was hypothesized that it may improve the balance. Aging is associated with a few neuromuscular deficits; it results in fall and various disorders related to balance and gait.

Dancing is something that older people also enjoy more as it is a variety of movements and not monotonous as the usual physical exercises of walking, because of the monotonous behaviour of physical exercising, many people get bored and quit exercising.

There were 24 women taken for this study who were aged from 61-74 years of age, they were all given a survey to do before enrollment regarding their incidence of any balancing disorders and falls during the 2 years of preceding the study, it was noted that none of them had a history of falls but 3 of them had episodes of vertigo and balancing disorders. There were certain criteria for inclusion, to have a sedentary lifestyle, female, over 60 years and lack of physical or psychological contraindications to dance therapy. Along with inclusions there were also certain exclusion criteria as followed, not being paralyzed, able to move around independently, no severe onset of vertigo, dementia, diabetes mellitus and cardiovascular diseases. Consent for participation in the study was taken by every subject.

The entire program lasted for 3 months, with 3 sessions in a week which lasted for 45 minutes. It started with a 10mins warm up, followed by a 30mins proper training, and ended with a 5 mins cooldown. The heart rate of the subjects was also monitored throughout the sessions with a cardiac monitor.

There were 3 tests conducted for analyzing, the first test was for testing the postural stability, 2nd test was the Limits of Stability (LOS) wherein they would test their balance in standing position and the last test was the Fall Risk Test - Modified Clinical Test of Sensory Integration and Balance (FRT M -CTSIB) which was done to assess the risk of falls.

Before and after the dance therapy, the subjects were also tested on the BioSway balance platform, which was a foam which created unstable ground conditions, the subjects were examined three times. All the results were analyzed using a special software package namely, Statistica (StatSoft).

The results after the study showed that there was a significant improvement on the balancing skills in the older women as tested in the LOS test. The findings of the study did show improvement in balancing skills but also it is important to note that this was only confirmed via one test out of three. Dance therapy also puts an emphasis on the controlled weight shifting and movement of ankles, it improves all the various physical limitations and stability.

Women who would not perform daily activities, started to do so, they felt more independent and safer, this led to an overall improvement in the quality of their life. It was noted that many of them said that they enjoy the dance therapy and would definitely continue with it further on.

The other strengths of the study included that subjects were tested on their balance immediately after completing their therapy session and also the data only included those who attended the sessions regularly. But the limitation should be put across, that only 1 out of 3 tests confirmed the significance of improvement, there was a lack of control group, small sample size, also the study should've included women from various age categories and those above 80 years of age, also there should've been inclusion of male subjects.

This hypothesis requires further verification in order to be understood better.

**Anna Muro, et. al. (2016)**, studies *dance practice and wellbeing correlates in young women*. The study studies mindfulness and life satisfaction (LS) in young women. This study is a correlational cross-sectional study, the inclusion criteria of the subjects were that they have not been involved in any non-competitive dance practice for almost a year, they are adult aged women and are studying or completed their higher education degree. The

exclusion criteria was that they had no diagnosis of psychopathological disorder. There are 81 women talents in the experimental group; they were taken from 3 modern dance schools from the Province of Barcelona and the control group had 120 subjects who studied at the university of Barcelona. The average age of the subjects was 20 years while subjects ranged from 18-37 years.

The materials of testing were Spanish versions of questionnaires namely the Satisfaction with Life Scale (SWLS) which evaluates the subjective feeling of satisfaction with life, the Mindful Attention Awareness Scale (MAAS) where they are evaluated on their ability to be aware and conscious of the present experience in everyday life and age was also taken as a possible confounding variable and that was self-reported.

It was noted that there is a positive relationship between the SWLS and MAAS scores and a negative relationship between the age and SWLS score.

The results showcased that young women who attended dance sessions regularly were more mindful and much more satisfied with their life than those who did not dance or even practice any kind of sport. It has a strong connection with LS. When dance is practiced regularly it enhances the tendency to be conscious and present in our everyday life, hence through this study it can be told that dance is associated with our cognitive processes.

There are limitations in the study as this was a correlational and cross-sectional study, it is necessary for it to be studied using experimental or longitudinal designs, there is a need to include those who even play other sports or are involved in other physical activity as then it can evaluate if dance as its own helps in healing and also there is a need of a larger sample size.

Lastly, dance is an affordable intervention compared to other treatments.

**Kristi Michels, et. al. (2018)**, aims to study “*dance therapy*” as a *psychotherapeutic movement intervention in Parkinson’s disease* with the objective to explore the safety and feasibility of a 10-week dance therapy (DT) program for Parkinson’s disease (PD) and to collect pilot data on efficacy of DT.

This is a randomized controlled study wherein there were 13 participants randomized 2:1 to DT 9 subjects and the support group had 4 subjects. There were 6 male and 7 female of which most were white, and their mean age was 69.2 years. The DT sessions were for 60 minutes weekly for 10 weeks. The inclusion criteria were those who had idiopathic PD, on a stable medication of PD prior to one month of the month and they were excluded who had participated in a dance intervention within the 3 months of this study or start any new treatment or participated in any recovery program, under the age of 18. The DT sessions were led by the same instructor and the control group took part in no physical exercise or technique.

The results showed that the subjects enjoyed the sessions and 7 out of 9 of them felt as this DT benefited them and 2 felt neutral about it. They also said they would suggest this to other patients with PD. Dance could be effective to target motor systems of PD as it incorporates stretching and strengthening of muscles, improves flexibility of the body and body balance. It could also activate areas of the brain that normally show reduction in activation in PD. The control group was not a no contact control group which hampered results. DT is as good as a social group as it is an activity in the presence of others. The sessions happened only once a week which is too less, further studies should be done to reveal advantages of DT in PD.

**Balaji Deekshitulu P V (2019)**, this paper focuses on *physical & mental health for Indian classical dance* and how the various Indian dance forms help in the healing of not only mental health but also our physical health. It has given a lot of detail about various forms of dance across the country, India, and how each dance has its own benefit. In the Indian context, Ayurveda considers dance as the power of healing in this case, it will be therapy and inner awareness that is our psychology.

Natya Shastra is an old Indian treatise which recognizes the importance of psychology in connection with drama, music, and dance. According to it, drama arouses joy to the spectator through the actors who are communicating through his act, and this helps individuals to connect into a super sensual inner state of being. In the ancient Sanskrit text, it has been mentioned that art engages every aspect of our life in order to glorify it and to have a state of joyful consciousness.

Dancing has a lot of health benefits as it helps people to stay fit irrespective of age, size, shape, or gender. Different types of dances express various psychological states and sentiments. They also involve various torso movements, hand gestures, movement of different parts of the body which in turn affect our physical body and mind.

To begin with, Bharatnatyam is a dance form from Tamil Nadu which apart from the standing form of dancing has 55 hand gestures, in this way those who cannot stand and dance can also sit and explore the world of dance

through hand gestures and expressions, this dance form also is used for emotional wellbeing and psychotherapy as well as helps in strengthening of hamstring muscles; similarly in Kathak which is from the north of India, it has hand gestures along with fast footwork which helps in the release of anger and tension, the torso movements are used for treatment purposes and physical movements.

The various forms of Indian dance are connected to Indian philosophy and spirituality. Continuous practice of dance along with physical fitness also strengthens our mental power, self-esteem and helps in understanding the mind-body relationship. The Manipuri form of dance gives proper body control and peace of mind.

Odissi dance gives a good body shape, great lung function and muscular control. Kuchipudi strengthens muscles and the same is for Mohiniyattam along with body balancing and relaxation.

Every India folk dance has the various health problems that it deals with, it has been noted through a survey that those who are involved in the activity of dancing are much more mentally and physically fit than non-dancers and since dancing is activity everyone admires, it increases the self-esteem and confidence of those involved in it.

There is a need to create awareness of this therapy, by conducting workshops to control diabetes, stress, obesity, to heal people, highlighted by NGOs, seminars, government organizations and so many other mediums.

In India, the whole concept of dance therapy is still at a very growing stage, there is still awareness being created about it. It is very well explained how each dance form helps in what way. There were mentions of a thin waist for women through dance, in this growing age where people are trying to grow body acceptance and every body is beautiful, it is an area of issue when someone writes specifically that a particular dance will help women in particular to have a thin waist, it showcases that, that is something that women should be having as a necessity. The given paper involves a lot of terms of the Sanskrit language, which makes it difficult for someone who has no awareness of the language.

There would be a better understanding if the paper had some experiment or study conducted in order to showcase how these dances help in actual situations.

**Päivi Pylvänäinen, et. al. (2020)**, aim to study *the profiles of body image associate with changes in depression among participants in dance movement therapy group*, in which a tri-partite model of body image was used in this model, body image information in categorized in 3 elements namely image properties, body self, and body memory. The main aim of the study was to study how dance therapy in the short term would affect the depression of participants who suffered with their body image. This study was offered in various cities within Finland by 12 dance movement therapists. When such a study is there where there are various therapists involved, we can analyze if the therapy works for itself and not because of the particular therapist.

The various research questions addressed in this paper are if larger samples similar to a previous study actually show such results, are short term DMT group interventions better for changing body image, does the individuals attachment style affect their body image and lastly the various clinical implications these findings have.

Participants for the study were taken by public mental health services and newspapers as well as social media, a screening interview was done through the telephone, the criteria for inclusion was to be 28-64 years of age, diagnosed with depression, and exclusion was if anyone was pregnant, had chronic pain or someone who couldn't physically get up from their seat.

The number of subjects were 143, mean age of the participants was 42 and the majority of them were women. The group treatment given was 2 sessions weekly which was spread across 20 weeks for 75 mins per session.

Body Image Assessment (BIA) was the tool used to get information of the individual's body image pre and post study which showcased an increase in score post and this showed a better feeling about their body image post the study. The Relationship Questionnaire (RQ) was to measure the adult attachment styles which showed most typical style was insecure: fearful/disorganized or preoccupied in style. The Five Facet Mindfulness Questionnaire (FFMQ) to find the participants' style to relate to their experiences, the Work Ability Index (WAI) to assess perception activity level and the Beck's Depression Inventory to assess the severity of the individuals' depressive symptoms which showed moderate depression pre study and post study showed mild depression.

For the control group no treatment was given and their depression scores as well as BIA scores did not change.

From the study it was found that post DMT, individuals became more accepting of their body image.

There were limitations as well in the study as the data collection was based on verbal interview and self-assessment tools, in this case, subjects could be biased about how they feel. The scoring system of BIA is very basic, there is a need for a stricter scoring system, and when it comes to clinically practicing this, to analyze the body image of the individual a questionnaire would be quicker and save a lot of time.



**Karolina Bryl, et. al. (2020)**, has evaluated *the role of dance/movement therapy in the treatment of negative symptoms in schizophrenia: a mixed methods pilot study*. In this study, the researchers have examined the treatment effects through a 10-week group dance/movement therapy (DMT) program on negative symptoms and the psychosocial functioning of individuals who have been diagnosed with schizophrenia.

In this study, there is a recommendation to examine the outcomes of DMT intervention versus treatment as usual (TAU) for individuals that have been diagnosed with schizophrenia.

In this study mixed methods intervention design has been used. In this randomized controlled trial this was followed by semi-structured exit interviews. Through these interviews they were trying to gain the understanding of the perceptions of the DMT intervention and the treatment outcomes along with insights from participants on easability and acceptability.

The subjects for the study were taken through advertisements, and a psychiatrist conducted an eligibility criterion. The inclusion criteria were outpatients who are 18years or older, they have been diagnosed with chronic schizophrenia with negative symptoms, and the exclusion criteria was of no organic brain disease or substance misuse as the primary diagnosis, and any kind of cognitive impairment that would interfere with competence to consent to participation and also to have any general medical disease. Blind outcome assessing was in attempt, but it was frequently broken by the participants by them sharing their intervention experience. The participants who have received DMT were interviewed during their intervention phase.

The sessions of DMT were given by credentialed dance/movement therapists and they had 2 sessions in week for 1hr and spread across 10 weeks.

The negative symptoms were measured using the Positive and Negative Syndrome Scale (PANSS), in this it was seen that there were no improvements, but both the groups noted there was a reduction in negative symptoms which was assessed by the Brief Negative Symptoms Scale (BNSS). Psychosocial functioning was measured using the WHO - Disability Assessment Schedule 2.0 (WHO-DAS 2.0) and the Sheehan Disability Scale (SDS). The participants who had attended at least 50% of the DMT sessions and were invited to participate in audio-recorded semi-structured exit interviews. 31 participants were taken into the study and randomly put into DMT or TAU groups and from that 15 of the 18 participants attended the DMT sessions, 8 of them attended 70% of the sessions and 3 of them fewer than 50% of the sessions and their data was excluded from the study.

It was noted that after taking interviews of 15 participants that they were satisfied with the program with its length and frequency, the number of people in the group, the duration and they wish to repeat this program and wish that the session increase to 3 times a week as well as an increase in the length of the sessions. The sessions made them less lonely, less nervous in social encounters and it was easier for them to make social connections. Some said their relations with people have not changed even though they enjoyed the sessions, they rarely met people. It also improved body images, self-confidence, motivation, enhanced moods, concentration and improved physical endurance and strength.

PANSS and BNSS are favorable testing procedures, but WHODAS is too lengthy, and could be a burden for those with schizophrenia.

The limitations in this study are that it had a small sample, the participants were self-referred and hence they could've been biased. Blinding of participants was not possible to do which was a threat for validity. Hence, there is a need for larger samples, increased treatment duration and to select measures that won't be a burden for the participants.

**Shuai Shao (2021)** through this study wanted to evaluate the *intervention effect of dance therapy based on the satir model on the mental health of adolescents during the covid-19 epidemic*. The volunteers for the study were taken from 4 communities in Zhongshan District and Xigang District of Dalian City and Liaoning Province. 62 subjects were taken, and they were divided in 2 groups, the experimental group which had 32 participants with 15 boys and 17 girls, and the control had 30 participants with 15 boys and girls each, the mean age was 15 years. The inclusion criteria to the study was those who were healthy and had no physical diseases, ones who volunteered to participate in group psychological counseling and lastly those who were willing to complete the questionnaire survey. The exclusion criteria were if anyone has serious psychological problems, were drug treatment, had serious physical disease or were not willing to complete the survey.

All the participants were measured using the SCL-90 to measure a benchmark level before the group psychological intervention.

The dance therapy session was based on the Satir Model's iceberg theory, it was spread across 7 weeks for one day in a week and lasted for 1hr. The theory was based around 8 themes, following the DMT, which started with a warmup, then the clarification of the task, they were then helped to express their subjective experience and lastly, they did a relaxation movement. The control group did no activity during the experimental period.

The data in the study was processed using SPSS. The life satisfaction between the groups showed no difference before the intervention but after the study their satisfaction level for the experimental group was higher. Before the study there was no difference in the depression/anxiety of the groups but post the study the experimental group showed lower levels of depression/anxiety, the combination of the group psychological intervention and the dance therapy which was based around the Satir Model helps to alleviate the anxiety and depression levels. Pre study there was no difference in the psychological resilience and its dimensions, but the post study experimental group showed higher levels compared to the control group.

It is seen that the Satir Model helps to improve the self-esteem of individuals and increases psychological resilience. This model has been used for the first time and this can be used in order to promote mental health education across adolescents as well as those who have suffered during the COVID-19 epidemic.

This study had a very small sample size as well as limited to a particular age group. A lot of individuals were affected during this epidemic, tests should be done to find out if it could help a wide range of samples.

**Talia Bendel-Rozow (2021)**, has evaluated a *recovery-oriented dance movement therapy group with adults coping with severe mental health conditions: A controlled trial*.

Recovery oriented dance movement therapy (RODMT) is a new way of helping individuals heal. Through this study the researchers wanted to evaluate the suitability of it for recovery practice. The research question here is the difference in the outcomes among participants who receive RODMT in comparison to those who receive Illness Management and Recovery (IMR) for adults with severe mental illnesses (SMI). It was hypothesized that engagement with recovery topics in specific body-oriented activities in RODMT could lead to differences in measures of engagement and recovery in comparison to the IMR group.

The RODMT sessions start with a movement warm up, following into a theme-exploration stage. In this study 98 subjects were taken who had SMI from various psychiatric rehabilitation programs in Israel. The most common being schizophrenia. The subjects included more men than women. The inclusion criteria in the study was for the adults to be diagnosed with SMI and have been engaged in community based psychiatric rehabilitation service. Participants were not randomized. The participants were told that they were invited to a 13-week long recovery group where they were assessing different methods of recovery.

4 programs were offered to the IMR groups and 5 to the RODMT group. They were given 13 sessions, the structure and content was the same but delivery methods were different. The engagement of participants was done through Patient Activation Measure (PAM). Of the 98 subjects only 52 finished the study, 29 from the RODMT group and 23 from the IMR group. The reasons for not completing the study are highly unknown.

The results showed that RODMT had similar impacts as IMR programs, hence it is a suitable rehabilitation program. Since a lot of the subjects were old it is to be found if age would make a difference in the dropout rate. The sample size was small, also with people with schizophrenia they have frequent changes in their mood, and this could affect their self-report recovery measurement. There is still a need to find if RODMT is a valid recovery intervention and also this research lacks group diversity.

## DISCUSSION

Dancing is a form of art that helps individuals to stay for irrespective of their age, size, shape or gender. In this paper we have discussed how DMT helps in the improvement of various aspects of life. It is seen that individuals prefer dancing sessions as it is absolutely different from the everyday monotonous exercising which involves walking which makes people get bored easily, dancing involves various movements along with music for one to groove to which helps in the relaxation of the mind.

The study conducted from Hana Vankova, et. al., was unique as it was one of the researches done on patients living in the nursing home as they are already away from the outside world as well as having depressive symptoms.

Dancing is an activity that a lot of people admire and helps in the upliftment of one's self-esteem and confidence. This paper has studies wherein individuals range from various age groups, from children to old age and it is observed that DMT is successful all across. It helps in the relaxation of muscles and the mind, lowering levels of

anxiety, depression, helping people to improve their body-image and showcase the best of themselves out there in the world. It was noted that people said they would recommend this treatment to other individuals as well and would love to continue the same as well.

This therapy is still gaining awareness, there is a need to create more awareness through workshops and through government organizations for laymen to be aware of the existence of this therapy.

The research done by Päivi Pylvänäinen, et. al., involved several therapists, this showed that the therapy doesn't make a difference only because of a good therapist, but it is the therapy that is making the difference.

The various questions as mentioned earlier to be explored through this paper were answered, DMT is an effective way to help in the process of healing. It works positively towards it and with more efforts and research in the area it can be used largely. It is applicable to every individual from kids to adults as it is an activity that everyone can be involved in. Yes, it is important to have a specialist in DMT to take sessions as they will be aware of how to deal with different individuals, what kind of sessions are applicable to different people, as one type of dance session cannot be applicable to all of the population, it has to vary from the individuals age, gender and shape as they will require different type of dance styles, level of choreography and the type of music.

## CONCLUSION

DMT is an intervention which doesn't require the involvement of any medications, it could be a much more affordable intervention, being pocket friendly in comparison to the other treatments.

More research is needed in this area to verify it more properly, with a larger sample size inclusive of gender, age, number and place of origin, a longitudinal study and a proper control group.

Hence, it can be concluded that DMT is an effective technique to heal mental health issues, body image and uplift an individual's personality.

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