




PEDAGOGIC INTERVENTION FOR HEALTH: A NARRATIVE SYSTEMATIC REVIEW ON BIODANZA


*INTERVENÇÃO PEDAGÓGICA PARA A SAÚDE: UMA REVISÃO
NARRATIVA SISTEMÁTICA SOBRE A BIODANZA* 

*INTERVENCIÓN PEDAGÓGICA PARA LA SALUD: UNA REVISIÓN
NARRATIVA SISTEMÁTICA SOBRE LA BIODANZA* 

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Abstract: This research reports on the first narrative review of Biodanza's effects on health and wellbeing. The review explores manuscripts in four languages (i.e., Italian, Spanish, Portuguese and English) and includes more than 200 documents. The protocol was evaluated according to the most recent SANRA guidelines and Kappa statistics. The research shows that the majority of the studies had descriptive approaches (29.2%), followed by robust control trials (26.8%), while the remaining studies included both narrative and systematic reviews (19.5%) as well as pilot (14.6%), ethnographic (7.3%), and assessment (2.4%) studies. The research team concluded that Biodanza is an innovative intervention to improve clinical and socio-pedagogic outcomes in different cohorts (including kindergartens and chronic senile-disease patients) and should be fostered for additional trials along or in comparison with alternative interventions (such as Bodytasking).

Keywords: Review. Dancing. Physical functional performance. Health promotion.

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1 INTRODUCTION

To dance has been described as the action of one or more people in a choreographed or improvised manner with or without accompanying sound (BLÄSING *et al.*, 2012). The art of dancing is among the most ancient form of art-in-motion of humankind (KASSING, 2007) common to all cultures and societies around the world (MITHEN *et al.*, 2006) as a form of verbal and no verbal communication (HANNA, 1987), mostly used in celebration (AJAYI, 1996), fight (CAPOEIRA, 2012) or for mating (BUCKNER; YANG, 2017). Its ritual is also common in other species and very well documented in birds (STAVENGA *et al.*, 2011), insects (NAMIKI; KANZAKI, 2016) and reptiles (SHAW, 1948). According to Laban rhythms, thoughts and gestures are the variables that demonstrate the presence of dance-ability in every human being (LABAN, 1926). Hence, the *Labanotation* is defined as the first dance-notation for body movements based on the idea that all motions are developed in space and time, making the body flow in the environment (MALETIC; FALCONE, 2011).

From a health and social science perspective, dance practices had been used successfully as a non-invasive, tailored intervention to prevent falls in elderlies (VERONESE *et al.*, 2017), with different types of dancing techniques, including ballroom dancing (BORGES *et al.*, 2014), dance video games (PICHIERRI; MURER; DE BRUIN, 2012), Irish dancing (VOLPE *et al.*, 2013), social dancing (MEROM *et al.*, 2016) and low-impact dancing (WU *et al.*, 2011), which showed significant improvements in balance confidence (i.e. decrement in fear of falling) and lower incidence of falls when compared to control groups. Other authors have also shown positive correlations between dancing and brain function (KARPATI *et al.*, 2015). The findings show that dance interventions are beneficial to enhance patients mental health (KOCH *et al.*, 2014; MILLMAN *et al.*, 2021), to contrast Parkinson disease (PEREIRA *et al.*, 2019) and to diminish the negative symptom related with autism (JESUS *et al.*, 2020). Among the vast dance scenarios available today, the authors have decided to focus their attention upon the novel Biodanza approach, as it represents a combination of cognitive-emotion-physical experiences that can be tailored to people's needs.

The Biodanza comes from the combination of the Greek word βίος (life) and the word dance. Thus it can be translated as dance of life (ROSA; ASCIONE; DI PALMA, 2020). It was elaborated by Rolando Toro Araneda as a term that combines aspects of pedagogy, motion, emotion and self-empower (TORO, 2008). In particular, Rolando del Toro Araneda describes five essential *Life Skills* that are elaborate during a session of Biodanza: i) *vitality* (ability to feel joy and empathy); ii) *creativity* (ability to create and recreate ourselves); iii) *affectivity* (ability to create a positive relationship with others); *sexuality* (ability to feel pleasure in life); iv) *transcendence* (positive relationship with the surroundings) (ROSA; MADONNA, 2019a; ROSA, 2017; 2018; 2018a; 2018b). Thus, the overall Biodanza experience combines dance motions with an optimistic attitude, self-efficacy, self-esteem, empathy, emotional management and empowerment, which are all vital elements of the social pedagogic approaches necessary to increase awareness and foster a healthy positive relationship with others (FERRARO; AMBRA; ARUTA; IAVARONE, 2020; FERRARO; AMBRA; IAVARONE, 2020; IAVARONE, 2009; 2019; IAVARONE; IAVARONE, 2004). Additionally, Biodanza

approaches, with the combination of group integration and expressive dance can be beneficial in motivating participants in reaching novel dimensions of self-awareness, which cannot be accessed through verbal language or rational activities (BARROS; XIMENES, 2016). To the extent that some authors compare choreographs session of Biodanza with the complex relations of the quantum physics realms (GARGANO, 2000).

In conclusion, dance strategies significantly affect health and wellbeing outcomes and should be used as a preventive or curative intervention. Biodanza, which combine physical, pedagogic, emotional, and empowered elements, can potentially be introduced as a novel, valid and reliable intervention. However, there is only a small amount of scientific evidence of the positive effects that Biodanza might have on health and educational outcomes, with a gap in terms of Biodanza standardised interventions that should be adopted in future research. Therefore, the authors have decided to review the available literature and produce a narrative review on the effect of Biodanza on health and wellbeing outcomes, answering the question: “what are the health and wellbeing effects of a Biodanza intervention?”

2 MATERIAL AND METHODS

In order to produce the following narrative systematic review, the research was evaluated with the most recent Scale for the Assessment of Narrative Review Articles (SANRA) guidelines (BAETHGE; GOLDBECK-WOOD; MERTENS, 2019). The authors looked at the evidence regarding the effects of Biodanza approaches upon wellbeing and pedagogic outcomes. The review was conducted following systematic methodological approaches that included transparent and rigorous methods to identify high quality, relevant peer-reviewed articles. (MCFADDEN *et al*, 2012; TAYLOR *et al.*, 2007). Further, the main objective of the following narrative systematic review is to explore the effect of Biodanza intervention to help in developing hypotheses on how the intervention might work, producing a preliminary synthesis upon the intervention and assessing any limitation or bias that might affect the outcomes (BARROS; XIMENES, 2016; POPAY *et al.*, 2006). A similar rigorous, transparent approach has been used successfully in other narrative systematic reviews (BEST; MANKTELOW; TAYLOR, 2014).

2.1 SEARCH STRATEGIES AND SELECTION OF ARTICLES

The research question was defined as “what are the health and wellbeing effects of a Biodanza intervention?”. Searches were performed on the following eight bibliographic databases: Pubmed, Google Scholar, Medline, Physiotherapy Evidence Database (PEDro), Educational Resources Information Centre (ERIC), PsycINFO, Scopus and Social Sciences Citation Index. All searches took place within a four weeks period (11th November – 9th December 2020), each with the following keywords and Boolean (**in bold**) “*Biodanza or Biodace, or Bio-danza, or Bio-dance or Bio danza or Bio dance*” across two concept groups: i) education; ii) health and wellbeing. Registration to PROSPERO Review Repository was favoured by the

research team but not possible as the database only allows systematic reviews (SIDERI; PAPAGEORGIOU; ELIADES, 2018). The selection of keywords and concept groups was obtained using PICO review strategy (ERIKSEN; FRANDSEN, 2018), as summarised in Table 1.

Table 1 - PICO structure to define search strategy

Population	Intervention	Comparison	Outcome
All population were included	Biodanza	Health interventions*	General health, wellbeing and education

*Considering the limited number of manuscripts that use rigorous scientific approaches, the authors have deliberately left the area of comparison extremely broad to allow a higher number of documents to be included, which would allow research-driven discussions upon best practices for future research approaches.

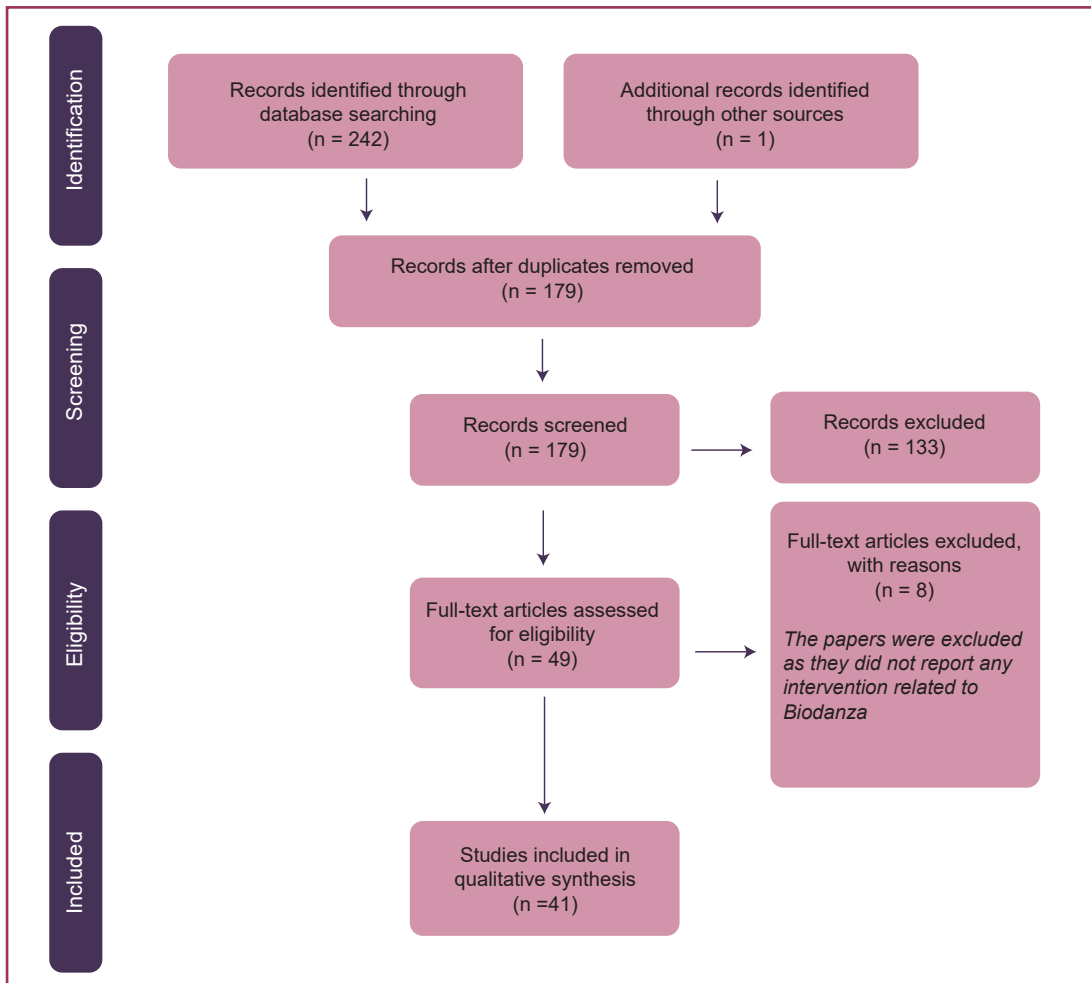
Source: prepared by the authors.

Using pre-defined inclusion criteria, which included all documents that used Biodanza as a pedagogic or health and wellbeing intervention and were based upon the PICO chart (Table 1), a total of 243 titles and abstracts were reviewed and selected independently by two members of the research team (FF, LA), with any non-agreement evaluated by a third reviewer (FIA). The review process is fully reported using PRISMA methodology and chart (MOHER *et al.*, 2009) present in the results section, Figure 1. To reach a higher quantity of manuscripts the following 4 languages were included (ENG, IT, SP, POR) as one researcher is a fluent Portuguese and Spanish speaker (FPD). All work was supervised by MLI and approved by the University of Napoli Parthenope. To monitor the review process, the Kappa statistic inter-reliability between reviewers (FF, LA) was used with a total score of 0.7, denoting substantial agreement (LANDIS; KOCH, 1977; McHUGH, 2012).

3 RESULTS

Using a rigorous systematic approach, the authors aimed to produce the first narrative systematic review on the effect of Biodanza on health and wellbeing outcomes. Briefly, the research methodologies of our findings were varied and included both qualitative and quantitative methods. The majority of studies (29.2%) had a descriptive approach, followed by a robust control trial (26.8%). Whilst the remaining included reviews both narrative and systematic (19.5%), pilot (14.6%), ethnography (7.3%), and diagnostic studies (2.4%). The total number of participants was unclear as many studies have not reported details about participants (including the number of people taking part, age and gender). However, based on the remaining data, it is possible that the total sample size acceded 1099 participants. For what concerned the manuscripts that reported a gender distinction also showed a higher number of females (~ 351) than males participants (~ 42). (Figure 1).

Figure 1 - PRISMA Chart that showed the systematic approach used in the narrative review.



Source: prepared by the authors.

The results showed a broad use of the intervention on health and wellbeing outcomes, particularly under two main areas of interest: clinical trials and socio-pedagogic approaches. Therefore, to properly describe the holistic and transdisciplinary use of Biodanza on the brooded Social Science outcomes (ROSENBERG, 2018), the results have been divided into two main topics with 24 related clinical outcomes and 17 socio-pedagogic research, Table 2.

Table 2 - List of studies included in the analysis divided by their topic.

Clinical related outcomes (n = 24)
(LUJÁN CARDOSO; GRINBERG; SÁNCHEZ, 2002)
(D'ALENCAR; MENDES; JORGE; GUIMARÃES, 2008)
(STÜCK; VILLEGAS; BAUER; TERREN <i>et al.</i> , 2009)
(CARBONELL-BAEZA; APARICIO; MARTINS-PEREIRA; GATTO-CARDIA <i>et al.</i> , 2010)
(LÓPEZ-RODRÍGUEZ; CASTRO-SÁNCHEZ; FERNÁNDEZ-MARTÍNEZ; MATARÁN-PEÑARROCHA <i>et al.</i> , 2012)
(CARBONELL-BAEZA; RUIZZ; APARICIO; MARTINS-PEREIRA <i>et al.</i> , 2012)
(CORDEIRO; SILVA BRAGA; DANTAS SILVA MEDEIROS; NASCIMENTO DE MORAES <i>et al.</i> , 2012)
(GODOY; VIANA; VASCONCELOS; BONVINI, 2012)
(LÓPEZ-RODRÍGUEZ; FERNÁNDEZ-MARTÍNEZ; MATARÁN-PEÑARROCHA; RODRÍGUEZ-FERRER <i>et al.</i> , 2013)
(GIANNELLI; GIANNINO; MINGARELLI, 2015)
(STUECK; VILLEGAS; LAHN; BAUER <i>et al.</i> , 2016)
(STUECK; TOFTS PAUL, 2016)
(VERONESE; MAGGI; SCHOFIELD; STUBBS, 2017)
(SEGURA-JIMÉNEZ; GATTO-CARDIA; MARTINS-PEREIRA; DELGADO-FERNÁNDEZ <i>et al.</i> , 2017)
(LÓPEZ-RODRÍGUEZ; BALDRICH-RODRÍGUEZ; RUIZ-MUELLE; CORTÉS-RODRÍGUEZ <i>et al.</i> , 2017)
(BIDONDE; BODEN; KIM; BUSCH <i>et al.</i> , 2018)
(MURILLO-GARCIA; VILLAFAINA; ADSUAR; GUSI <i>et al.</i> , 2018)
(ROSA; VITTORIA, 2018)
(IBÁÑEZ-VERA; ALVERO-CRUZ; GARCÍA-ROMERO, 2018)
(ILLESCA PRETTY; GONZÁLEZ ZUÑIGA; SOTO URRUTIA; HERALDO <i>et al.</i> , 2019)
(SCHMIDEK; SCHMIDEK; PEDRÃO, 2019)
(SANTOS; VALLE; REIS; SILVA <i>et al.</i> , 2020)
(ALGUACIL CABRERA; LOZANO DÍAZ; ARIAS ARIAS, 2020)
(ALTAMIRANO QUEVEDO; CASTILLO VIERA; RODRÍGUEZ PASCUAL, 2021)
Socio-Pedagogic outcomes (n = 17)
(GARGANO, 2000)
(D'ALENCAR, BÁRBARA PEREIRA; MENDES, MARIA MANUELA RINO; JORGE, MARIA SALETE BESSA; RODRIGUES, MARIA DO SOCORRO PEREIRA, 2006)
(KARPATI; GIACOSA; FOSTER; PENHUNE <i>et al.</i> , 2015)
(DÍAZ, 2015)
(ROSA; TIZIANA DE, 2017)
(DE VITA; ROBERTA, 2018)
(HERNÁNDEZ LOPEZ; FIERRO SUERO; FERNÁNDEZ-OZCORTA; SÁENZ-LÓPEZ, 2018)
(ROSA; TIZIANA DE, 2018a)
(ROSA; TIZIANA DE, 2017)
(STUECK; KALOETI; VILLEGAS; UTAMI, 2019)
(ROSA; GIUSEPPE, 2019b)
(ROSA; DONINI; DE LUCA, 2019)
(ROSA; ASCIONE; DI PALMA, 2020)
(ROSA; MADONNA, 2020a)
(ROSA; MADONNA, 2020b)
(ZUNIGA, 2020)
(CONSTANTINO MURILLO; ESPADA MATEOS, 2020)

Source: prepared by the authors

3.1 CLINICAL RELATED OUTCOMES

The majority of the studies that focused on clinical related outcomes were clinical trials (35.0%). The studies included in the narrative systematic review indicate a broad use of the Biodanza in many clinical settings, including fibromyalgia, hypothyroid, autistic syndrome and with sight impairment patients. With the higher number of research was conducted with fibromyalgia patients (40.0%) and showed that Biodanza intervention is feasible and valid in reducing pain, improving quality of life and self-awareness with these patients (BIDONDE *et al.*, 2018; CARBONELL-BAEZA *et al.*, 2010; CARBONELL-BAEZA *et al.*, 2012; LÓPEZ-RODRÍGUEZ *et al.*, 2012; LÓPEZ-RODRÍGUEZ *et al.*, 2013; SEGURA-JIMÉNEZ *et al.*, 2017).

Additional research with adults (in health or chronic conditions) showed a significant positive effect of Biodanza intervention on quality of life (LUJÁN CARDOSO; GRINBERG; SÁNCHEZ *et al.*, 2002) increment in vital impetus and will to live (D'ALENCAR *et al.*, 2008), decrement in alexithymia, stress (GIANNELLI; GIANNINO; MINGARELLI, 2015), anxiety (ALGUACIL CABRERA; LOZANO DÍAZ; ARIAS ARIAS, 2020) and positive effect on the immune system (STÜCK *et al.*, 2009). Similar results have been reported in younger participants where Biodanza has been associated with decrements in stress with university students (LÓPEZ-RODRÍGUEZ *et al.*, 2017) and with kindergartens (STUECK; VILLEGAS; LAHN; BAUER *et al.*, 2016). Furthermore, a positive effect of Biodanza was also reported in patients with sight impairments, whom after the intervention showed improvements in motor skills and emotional learning (SCHMIDEK; SCHMIDEK; PEDRÃO, 2019). The data is summarised in Table 3.

Table 3 - Overview upon clinical related studies in chronological order

N = 23	Health and Wellbeing outcomes	Methodology
(LUJÁN CARDOSO; GRINBERG; SÁNCHEZ, 2002)	QoL in sedentary hypothyroid patients	CT
(D'ALENCAR; MENDES; JORGE; GUIMARÃES, 2008)	QoL in older adults	Ethnographic
(STÜCK; VILLEGAS; BAUER; TERREN <i>et al.</i> , 2009)	Secretion of IgA and relaxation in older adults	CT
(CARBONELL-BAEZA; APARICIO; MARTINS-PEREIRA; GATTO-CARDIA <i>et al.</i> , 2010)	Treatments of Fibromyalgia	CT
(LÓPEZ-RODRÍGUEZ; CASTRO-SÁNCHEZ; FERNÁNDEZ-MARTÍNEZ; MATARÁN-PEÑARROCHA <i>et al.</i> , 2012)	Treatments of Fibromyalgia	CT
(CARBONELL-BAEZA; RUIZZ; APARICIO; MARTINS-PEREIRA <i>et al.</i> , 2012)	Treatments of Fibromyalgia	CT
(CORDEIRO; SILVA BRAGA; DANTAS SILVA MEDEIROS; NASCIMENTO DE MORAES <i>et al.</i> , 2012)	Care practices in Social Workers	Ethnographic
(GODOY; VIANA; VASCONCELOS; BONVINI, 2012)	Psychosocial approaches in Mental Health Care	Descriptive
(LÓPEZ-RODRÍGUEZ; FERNÁNDEZ-MARTÍNEZ; MATARÁN-PEÑARROCHA; RODRÍGUEZ-FERRER <i>et al.</i> , 2013)	QoL in Fibromyalgia patients	CT
(GIANNELLI; GIANNINO; MINGARELLI, 2015)	Wellbeing in Healthy Adults	CT
(STUECK; VILLEGAS; LAHN; BAUER <i>et al.</i> , 2016)	Cortisol Level in Kindergarten	Pilot
(STUECK; TOFTS PAUL, 2016)	Stress Reduction and wellbeing	Review
(VERONESE; MAGGI; SCHOFIELD; STUBBS, 2017)	Falls prevention	Review
(SEGURA-JIMÉNEZ; GATTO-CARDIA; MARTINS-PEREIRA; DELGADO-FERNÁNDEZ <i>et al.</i> , 2017)	Treatments of Fibromyalgia	Pilot
(LÓPEZ-RODRÍGUEZ; BALDRICH-RODRÍGUEZ; RUIZ-MUELLE; CORTÉS-RODRÍGUEZ <i>et al.</i> , 2017)	Treatments of Stress and Depression	CT
(BIDONDE; BODEN; KIM; BUSCH <i>et al.</i> , 2018)	Treatments of Fibromyalgia	Review
(MURILLO-GARCIA; VILLAFAINA; ADSUAR; GUSI <i>et al.</i> , 2018)	Treatments of Fibromyalgia	Review
(ROSA; VITTORIA, 2018)	Autism Spectrum Disorder	Review
(IBÁÑEZ-VERA; ALVERO-CRUZ; GARCÍA-ROMERO, 2018)	Treatments of Fibromyalgia	Review
(ILLESCA PRETTY; GONZÁLEZ ZUÑIGA; SOTO URRUTIA; HERALDO <i>et al.</i> , 2019)	Older Adults with Chronic disease	Pilot
(SCHMIDEK; SCHMIDEK; PEDRÃO, 2019)	Sight impairment	Descriptive
(SANTOS; VALLE; REIS; SILVA <i>et al.</i> , 2020)	Integrative and Complementary Health Practices	Pilot
(ALGUACIL CABRERA; LOZANO DÍAZ; ARIAS ARIAS, 2020)	Treatments of Mental Health	Pilot
(ALTAMIRANO QUEVEDO; CASTILLO VIERA; RODRÍGUEZ PASCUAL, 2021)	Promotion of health and wellbeing	Review

QoL = Quality of Life; CT = Control Trial

Source: prepared by the authors.

3.2 SOCIO-PEDAGOGIC OUTCOMES

The majority of the studies that focused on socio-pedagogic outcomes use a descriptive analysis (58.8%). The studies included in the narrative systematic review indicate a broad use of the Biodanza in many different socio-pedagogic settings, including self-empowerment, mental health, learning processes, emotional skills, life perspective and special didactics. The higher number of research described the methods and methodology, and outcomes of Biodanza in standards and adaptive education with particular attention to emotional-cognition learning skills (ROSA; ASCIONE; DI PALMA, 2020; ROSA; MADONNA, 2019a; b; ROSA; DONINI; DE LUCA, 2019; ROSA, 2018a; b; ROSA; MADONNA, 2020a; b; DE VITA; ROSA, 2018).

Additionally, the review showed that Biodanza increases self-empowerment and promote autonomous living in adults (D'ALENCAR *et al.*, 2006; STUECK *et al.*, 2019). With students has been reported that the intervention increases self-empowerment, communication (DÍAZ, 2015) and personal development (GONZÁLEZ ZUNIGA; MARTÍNEZ GONZÁLEZ, 2020) in Higher Education (i.e. University students) as well as emotional intelligence (CONSTANTINO MURILLO; ESPADA MATEOS, 2020) and physical outcomes (HERNÁNDEZ LOPEZ *et al.*, 2018) with younger students. The data is summarised in Table 4.

Table 4 - Overview upon socio-pedagogic studies

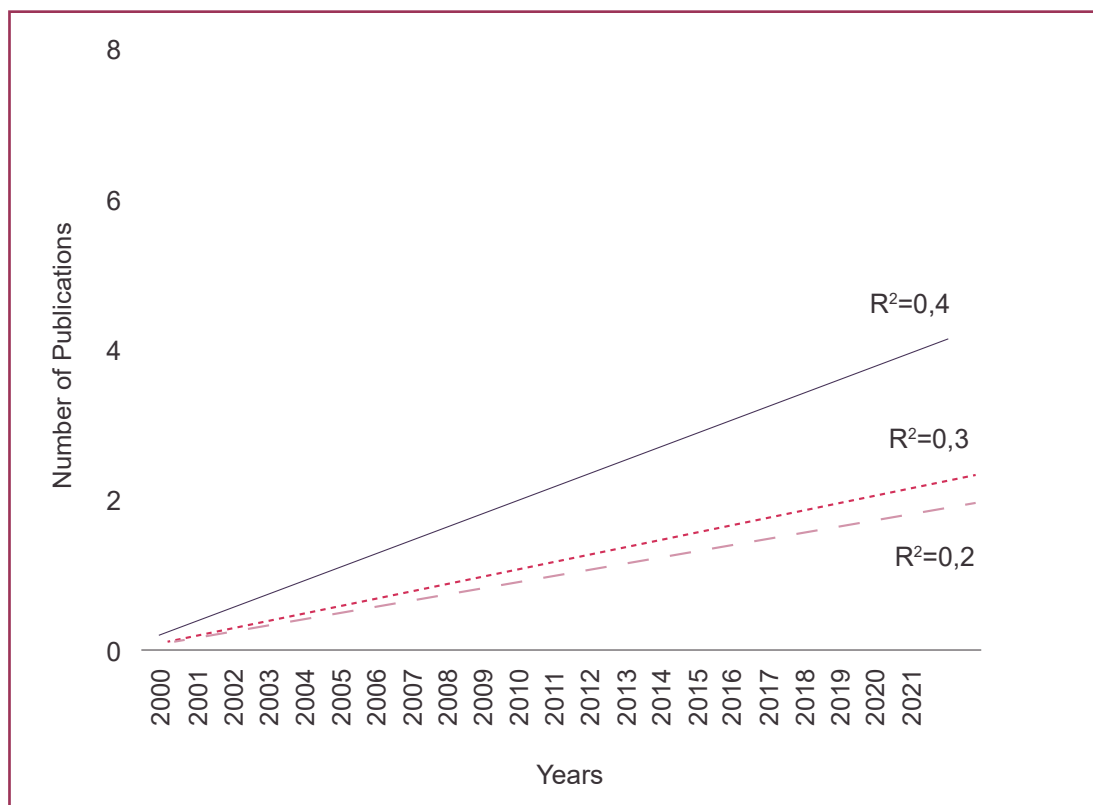
N = 17	Pedagogic issue or related concept investigated	Methodology
(GARGANO, 2000)	Choreography and dance evolution	Descriptive
(D'ALENCAR; MENDES; JORGE; RODRIGUES, 2006)	Self-empowerment and mental health	Ethnography
(KARPATI; GIACOSA; FOSTER; PENHUNE <i>et al.</i> , 2015)	Mental Health	Review
(DÍAZ, 2015)	Self-empowerment and Communication	Pilot
(ROSA; TIZIANA DE, 2017)	Educational value	Descriptive
(TIZIANA DE; ROBERTA, 2018)	Education in Special Didactics	Descriptive
(HERNÁNDEZ LOPEZ; FIERRO SUERO; <i>FERNÁNDEZ-OZCORTA</i> ; <i>SÁENZ-LÓPEZ</i> , 2018)	Primary School Education	CT
(ROSA; TIZIANA DE, 2018a)	Emotion and Cognition process	Descriptive
(ROSA; TIZIANA DE, 2017)	Student and Athlete life perspective	Descriptive
(STUECK; KALOETI; VILLEGAS; UTAMI, 2019)	Empathy and Communication skills	CT
(ROSA; GIUSEPPE, 2019b)	Social inclusion	Descriptive
(ROSA; GIUSEPPE, 2019a)	Young Prisoners Education	Pilot
(ROSA; DONINI; DE LUCA, 2019)	Social Inclusion	Descriptive
(ROSA; ASCIONE; DI PALMA, 2020)	School Education	Descriptive
(ROSA; MADONNA, 2020a)	Emotional skills and soft skills	Descriptive
(ROSA; MADONNA, 2020b)	Youth development of personal skills	Descriptive
(GONZÁLEZ ZUNIGA; MARTÍNEZ GONZÁLEZ, 2020)	Personal Development	DW
(CONSTANTINO MURILLO; ESPADA MATEOS, 2020)	Emotional Intelligence	CT

CT = Control Trial; DW= Diagnostic Workshop

Source: prepared by the authors.

Additional analysis of the results presented in Tables 3 and 4 showed a positive tendency in the usage of Biodanza interventions in literature over time, Figure 2.

Figure 2 - Linear tendency of Biodanza interventions



The graph indicates the line of tendency of Biodanza interventions (----) with $R^2 = 0.6$ over the course of 21 years; Biodanza interventions that focused on clinical related outcomes (-----) $R^2 = 0.6$; Biodanza interventions that focused on socio-pedagogic outcomes (- - -) $R^2 = 0.4$

4 DISCUSSION

The narrative systematic review aimed to report the first comprehensive review of Biodanza effects on health and wellbeing outcomes. The review is the first to associate manuscripts in four languages (i.e., Italian, Spanish, Portuguese and English) and studied more than 200 documents, representing the vastest narrative review on Biodanza. The results show a double significative use of Biodanza intervention. Firstly, as a tool to increase self-empowerment, mental health, learning processes, emotional skills, life perspective, and special didactics. Secondly, as an intervention to enhance the quality of life, vital impetus and will to live, decrease stress and anxiety.

According to Rolando Toro Araneda, human being progression is possible only if they are educated to put life at the centre of their reflection (TORO, 2008). Hence, the practice of Biodanza has the role of generating experiences of great intensity that allow human beings to achieve harmony between five fundamental dimensions: i) *vitality* (ability to feel joy and empathy); ii) *creativity* (ability to create and recreate ourselves); iii) *affectivity* (ability to create a positive relationship with others); *sexuality* (ability to feel pleasure in life); iv) *transcendence* (positive relationship with the surroundings). These dimensions are an expression of what Toro called the *vivencia*

(experience). Hence, the key point of Biodanza intervention is that the educators or teachers provide useful indications for the practice, but the *vivencia* is free from the proposal of behavioural models or structures of the movements. Thus, each person is free to give their own vital response based on their possibilities and intentions. For these reasons, since the intervention is highly holistic and can be tailored to participants needs, there have been multiple uses of Biodanza. From a physical perspective, it shows improvements in clinical related outcomes, and from a cognitive-educative perspective, it shows improvements in socio-pedagogic outcomes.

According to its possibilities and intentions, a valid parallelism with Biodanza has been found in the Bodytasking, which uses a multimodal body technique capable of decoding environmental stimuli by allocating cognitive energy in each activity Figure 3.

Figure 3 - A moment from Bodytasking's workshop.



Similarly, in what happens during a Biodanza sessions. Participants engaged in an improvisation to block their movements while making contact.

Source: **Photographer** Elio Fumo, **Picture taken** 18/06/2019, **at** Cultural Association Il Quadrifoglio, Ercolano, Naples, Italy.

The term Bodytasking comes from “body” and “task” and uses various activities that contribute to forming a movement routine. The methodology proposes a dance practice that involves the participation of all parts of the body, working on unified and global movement. This idea is in accord with Laban’s dance theories (1926), which proposed the separation between the surrounding explorative dance to the structured academic dance. According to the Bodytasking method, the space surrounding the body can be “filled” with a sustainable motion (ARUTA *et al.*, 2021).

This consideration is in continuity with the biocentric principle of Biodanza, which supports the centrality of the universe as the only living system in which we are part (TORO, 2008) and shows how dance practices are in continuous evolution.

In both techniques, participants experiment with their bodies, aiming for personal wellbeing and living in harmony with the surrounding environment. Both are placed on continuity with the embodied theories that consider the body as a filter of knowledge (IAVARONE; IAVARONE, 2004; WILSON, 2002), a frame for dialogue between pedagogical and neuro-cognitive sciences (FRANCESCONI, 2011). Therefore, Bodytasking and Biodanza can be considered an inclusive practice, open to all and with the potential for educational, therapeutic, and social intervention.

In conclusion, based on our results, it is important to note that the number of research using Biodanza as an effective intervention for health, wellbeing and education is rising. To put these considerations in a broad perspective: from a pedagogic point of view, we have recently demonstrated that dance-based intervention improves students' perception of distanced learning significantly (ARUTA; AMBRA; FERRARO; IAVARONE, 2021). It is then possible to conceive that interventions like Biodanza should be used to enhance students' learning experience, particularly following the past year in which many countries have faced a significant deprivation of physical activities due to lockdown restriction (JAKOBSSON *et al.*, 2020; LIPPI; HENRY; SANCHIS-GOMAR, 2020). The lack of exercise directly impacts people's health and produces negative effects on cognition (GALLESE, 2005; GIBBS JUNIOR, 2005) and emotion (FERRARI; COUDÉ, 2018; SCHMIDT, 2017). From a health and wellbeing, perspective dance-based interventions are vastly used to improve many aspects of patients health (SHEPPARD; BROUGHTON, 2020). However, what is now crucial is to introduce dance-based intervention like Biodanza into clinical trials with precise specifications and details about the intervention that should include: i) practices, ii) timing and iii) administration, following most recent NICE and ERAS guidelines (EVANS; BRAY; GARABEDIAN, 2021; LJUNGQVIST; FRANCIS; URMAN, 2020).

5 CONCLUSION

The systematic narrative review aimed to report the first systematic review of Biodanza effects on health and wellbeing outcomes. We have reported that Biodanza is an innovative, holistic and tailored intervention to improve clinical and socio-pedagogic outcomes and should be fostered for additional trials. In particular, research that used Biodanza with a control trials methodology is wanted. Further studies should explore the dance intervention with qualitative and quantitative objective measures to report the vast potential use of Biodanza. Future studies should also be meticulous in reporting the number of participants and basic biometric details (such as age, gender and body mass index).

Additionally, the review showed how the training intervention could be introduced in education with body-cognition strategies. For instance, the authors recommended adopting it in social and educational deprivation (such as with early schools' leavers and in youth penitentiaries). In particular the body-cognition strategies of Biodanza intervention should be immediately proposed for the adolescents that have been forced in distanced learning due to the recent COVID-19 lockdown triggered in many countries (LIM; PRANATA, 2021; ROSSI *et al.*, 2020), where the absence of structured

or semi-structured physical activities have been an alarming concern (FERRARO; AMBRA; ARUTA; IAVARONE, 2020; PISANO; GALIMI; CERNIGLIA, 2020).

In conclusion, the authors reported the importance of a dance-based intervention as a physical intervention that significantly improves health and pedagogic outcomes in health and diseases, Figure 4.

Figure 4 - Take home bullets points

- Biodanza intervention has positive effects on self-empowerment, mental health, learning process, emotion development, life perspective and facilitates didactics;
- Biodanza can be adopted to increase the quality of life, vital impetus, decrease stress and anxiety.
- Dance practices are in continuous evolution; however, a standard agreement should be reached on modality and dissemination of a standardised Biodanza intervention.
- When measuring the outcomes of physical intervention for health and wellbeing, it is advised to adopt a transdisciplinary approach that combines clinical with social-pedagogic outcomes.

Source: prepared by the authors.

6 LIMITATIONS

The study limitations are several. Firstly, the authors could not produce a standard systematic review using PROSPERO guidelines due to the extremely high differences in cohorts and intervention strategies used in Biodanza interventions. Unlikely many sport-related interventions, Biodanza has not been standardised, and it seems that the practice interventions varied in between studies.

Also, it is necessary for future research to clearly define the objectives and areas of effects of the Biodanza intervention. Future studies will be able to explore singular aspects of the broad concept of health and wellbeing. We reported a lack in studies design, which did not allow us to focus on a single physiological or pedagogic outcome, including, lack of details about the intervention (e.g., number of weeks, number of sessions per week, number of hours per session), lack of information regarding the participants (e.g., age group, gender, number of people taking part in the study), along with not standardise outcomes measurements, unlikely seen in other novels holistic intervention (e.g., inspiratory muscle training (AZAMBUJA; OLIVEIRA; SBRUZZI, 2020) where the outcomes are all validated and well used in research and clinical practices.

Different languages were also a barrier to the interpretation of the studies, and the authors asked for additional collaboration with an expert in Portuguese and Spanish languages. However, we advise that further research be published or translated in English to produce a higher level of discussion, facilitating inclusion in the scientific community worldwide.

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Resumo: A pesquisa tem como objetivo relatar a primeira revisão narrativa dos efeitos da Biodanza na saúde e no bem-estar. A revisão explora manuscritos em quatro idiomas (italiano, espanhol, português e inglês) e incluiu mais de 200 documentos. O protocolo foi avaliado de acordo com as mais recentes diretrizes SANRA e estatísticas Kappa. A pesquisa mostra que a maioria dos estudos teve abordagem descritiva (29,2%), seguida de ensaios de controle robusto (26,8%). Enquanto o restante incluía revisões narrativas e sistemáticas (19,5%), estudos-piloto (14,6%), etnográficos (7,3%) e diagnósticos (2,4%). A equipe de pesquisa concluiu que a Biodanza é uma intervenção inovadora para melhorar os resultados clínicos e sociopedagógicos em diferentes coortes (incluindo jardins de infância e com pacientes com doença senil crônica) e deve ser promovida para ensaios adicionais junto ou em comparação com intervenções alternativas (como Bodytasking).

Palavras chave: Revisão. Dança. Desempenho físico-funcional. Promoção da saúde.

Resumen: La investigación tiene como objetivo relatar la primera revisión narrativa de los efectos de la Biodanza en la salud y el bienestar. La revisión explora manuscritos en cuatro idiomas (italiano, español, portugués e inglés) e incluye más de 200 documentos. El protocolo se evaluó de acuerdo con las estadísticas más recientes SANRA directrices y Kappa. La investigación muestra que la mayoría de los estudios tuvo un enfoque descriptivo (29,2%), seguido por ensayos de control robusto (26,8%). El resto incluyó revisiones narrativas y sistemáticas (19,5%), piloto (14,6%), etnografía (7,3%) y estudios de diagnóstico (2,4%). El equipo de investigación concluyó que Biodanza es una intervención innovadora para mejorar los resultados clínicos y sociopedagógicos en diferentes cohortes (incluidos jardines infantiles y con pacientes con enfermedad senil crónica) y debe fomentarse para ensayos adicionales junto o en comparación con intervenciones alternativas (como Bodytasking).

Palabras clave: Revisión. Danza. Rendimiento físico funcional. Promoción de la salud.

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CONFLICT OF INTERESTS

The authors have declared that this work involves no conflict of interest.

AUTHORS' CONTRIBUTIONS

Francesco Vincenzo Ferraro: Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Resources; Validation; Writing – original draft; Writing – review & editing

Luigi Aruta: Data curation; Formal analysis; Investigation; Methodology; Resources; Writing – original draft; Writing – review & editing

Ferdinando Ivano Ambra: Data curation; Methodology; Validation; Writing – review & editing

Francesco Paolo Distaso: Data curation; Formal analysis; Methodology; Resources

Maria Luisa Iavarone: Conceptualization; Methodology; Project administration; Supervision; Writing – review & editing

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EDITORIAL RESPONSIBILITY

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