Table S1. Full Search Strategy

| Database | Search |
| :--- | :--- |
| AMED, CINHAL (via | S1 (MH "Multiple Sclerosis") |
| EBSCO) | S2 "multiple sclerosis" |
|  | S3 "MS"" |
|  | S4 "demyelinat*" |
|  | S5 S1 OR S2 OR S3 OR S4 |
|  | S6 (MH "Dancing+") |
|  | S7 (MH "Dance Therapy") |
|  | S8 "danc*" |
|  | S9 "ballet" |
|  | S10 "ballroom" |
|  | S11 "tango" |
|  | S12 "jazz" |
|  | S13 "Zumba" |
|  | S14 "movement to music" |
|  | S15 S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 |
|  | S16 S5 AND S15 |
|  | Expanders: Apply equivalent subjects |
|  | $\rightarrow$ AMED: 10 |
|  | $\rightarrow$ CINHAL: 60 |
|  |  |
|  | S1 Multiple Sclerosis/ |
|  | S2 multiple sclerosis.mp. |
|  | S3 MS.mp. |
|  | S4 demyelinat*.mp. |
|  | S5 S1 OR S2 OR S3 OR S4 |
|  | S6 exp Dancing/ |
|  | S7 exp Dance Therapy/ |


|  | S8 danc*.mp. <br> S8 ballet.mp. <br> S10 ballroom.mp. <br> S11 tango.mp. <br> S12 jazz.mp. <br> S13 zumba.mp. <br> S14 movement to music.mp. <br> S15 S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 <br> S16 S5 AND S15 $\rightarrow 91$ |
| :---: | :---: |
| Web of Science (Core Collection) | (TS=("multiple sclerosis" OR "MS" OR "demyelinat*")) AND TS=((danc* OR "ballet" OR "ballroom" OR "tango" OR "jazz" OR "Zumba" OR "movement to music") ) $\rightarrow 216$ |
| ProQuest (Health \& Medical Collection, Nursing \& Allied Health Database, and PsycINFO) | S1 (noft("multiple sclerosis") OR TI,AB("MS") OR noft("demyelinat*")) <br> S2 (noft(danc*) OR noft("ballet") OR noft("ballroom") OR noft("tango") OR noft("jazz") OR noft("zumba") OR noft("movement to music")) <br> S3 S1 AND S2 <br> $\rightarrow$ Health \& Medical Collection: 173 <br> $\rightarrow$ Nursing \& Allied Health Database: 84 <br> $\rightarrow$ PsychINFO: 50 |
| Scopus | ( TITLE-ABS-KEY ( "multiple sclerosis" OR "demyelinat*" ) ) AND ( TITLE-ABS-KEY ( danc* OR "ballet" OR "ballroom" |


|  | OR "tango" OR "jazz" OR "zumba" OR "movement to <br> music" ) ) <br> $\rightarrow 50$ |
| :--- | :--- |

Table S2. Complete Characteristics of Included Studies

| Author, Date, Design | Sample Characteristics (size ${ }^{\text {a }}$, sex, age, MS type, disability status, disease duration) | Intervention Characteristics (type, delivery mode, dosage, frequency, duration, adverse events, adherence, dropouts) | Outcome Measures | Main Findings | Quality |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Randomized Controlled Trial |  |  |  |  |  |
| ```Young et al,}\mp@subsup{}{}{35 2019; proof-of-concept trial``` | 81 (self-reported diagnosis); <br> 66F/15M; <br> Mean age dance group, $49.67 \pm 9.40$ years; <br> MS type, NR; <br> PDDS range, 0-6 (no disability - bilateral support); <br> Mean disease duration of dance group, $13.56 \pm 8.26$ years | Movement-to-music (M2M, n = 27); <br> Group, in-person; <br> 60 minutes x $3 /$ week for 12 weeks; <br> AE (study-related), 1; <br> Adherence, 53.7\% <br> Lost to follow-up, $n=3$ <br> Adapted yoga (AY, $\mathrm{n}=$ 26); <br> Group, in-person; <br> 60 minutes x 3/week for 12 weeks; <br> AE (study-related), 0 ; | Primary: <br> Mobility (TUG) <br> Walking endurance (6MWT) <br> Lower-extremity functional strength (5XSTS) <br> Secondary: <br> Fatigue and pain <br> (PROMIS Fatigue and <br> Pain Interference Short <br> Forms 8a) | Primary: <br> TUG <br> Pre M2M group: $12.3 \pm 12.4$ <br> Post M2M group: $12.2 \pm 14.1$ <br> Group difference $(P=.03)^{*}$ <br> Post hoc, between M2M-WC ( $P=.01$ )* <br> Cohen's $d=0.7$, medium ES <br> Post hoc, between AY-WC $(P=.09)^{\circ}$ <br> 6MWT <br> Pre M2M group: $341.7 \pm 110.1$ <br> Post M2M group: $383.9 \pm$ <br> 134.1 <br> Group difference accounting for PDDS ( $P=.04$ )* <br> Post hoc, between M2M-WC ( $P=.04$ )* | Moderate (60\% quality criteria met) |


|  |  | Adherence, 67.7\% <br> Lost to follow-up, $\mathrm{n}=5$ <br> Waitlist control (WC, n = 28); <br> Biweekly, educational newsletters; <br> Lost to follow-up, $n=5$ |  | Cohen's $d=0.6$, medium ES <br> Post-hoc, between AY-WC ( $P=.25$ ) <br> 5XSTS <br> Group difference $(P=.41)$ <br> Secondary: <br> PROMIS-Fatigue <br> Group difference accounting for PDDS $(P=.08)^{\circ}$ <br> Post hoc, between M2M-WC ( $P=.09)^{\circ}$ <br> Cohen's $d=0.49$, medium ES <br> PROMIS-Pain <br> Group difference $(P=.70)$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Nonrandomized Studies |  |  |  |  |  |
| Mandelbaum et al, ${ }^{38}$ 2016; uncontrolled, before-and-after study | 8 (confirmed diagnosis); <br> 5F/3M; <br> Age range, 29-63 years; <br> 7 RRMS/1 SPMS; <br> PDDS range, 0-3 (no disability-walking disability); | Salsa dance; <br> Group, in-person; <br> 60 minutes x $2 /$ week for 4 weeks; <br> AE, 0 ; <br> Adherence, 98\% <br> Dropouts, 0 | Gait (T25-FW, MSWS12) <br> Balance (DGI, BBS) <br> Mobility (TUG) <br> Balance confidence <br> (ABC) <br> Self-efficacy (MSSS) | Pre-post, within group <br> TUG $(P=.02)^{*}$ <br> Pre: $9.5(8.6 ; 10.0)$ <br> Post: $8.5(8.1 ; 8.9)$ <br> GLTEQ ( $P=.01$ )* <br> Total minutes/week <br> Pre: 250.0 ( $25.0 ; 447.5$ ) <br> Post: 450.0 (305.0; 731.3) <br> Moderate exercise (min) <br> Pre: 70.0 ( $0.0 ; 338.8$ ) | Moderate (60\% quality criteria met) |


| Disease duration range, 122 years |  | Motivation for PA (MPAM-R) <br> Physical activity (GLTEQ) <br> MS symptom checklist (MS Symptoms) <br> Neurological disability (PDDS) | Post: 325.0 (240.0; 492.5) <br> Total leisure activity (METs) <br> Pre: 28.0 (4.5; 50.8) <br> Post: 43.0 (30.0; 67.5) <br> MS Symptoms $(P=.05) *$ <br> Pre: $5.0(2.0 ; 6.8)$ <br> Post: 5.5 (2.3; 8.5) <br> $\underline{\mathrm{DGI}}(P=.09)^{\circ}$ <br> $\underline{\mathrm{ABC}}(P=.09)^{\circ}$ <br> T25-FW, MSWS-12, BBS, <br> MSSS, PDDS, MPAM-R, ( $P>0.1$ ) <br> Pre 3-month follow-up <br> $\underline{\mathrm{DGI}}(P=.04)$ * <br> Pre: 22.5 (20.3; 23.8) <br> 3-month: 24.0 (22.3; 24.0) <br> TUG $(P=.05)^{*}$ <br> Pre: 9.5 ( $8.6 ; 10.0$ ) <br> 3-month: 8.3 (8.0; 8.9) <br> MSWS-12 $(P=.05)^{*}$ <br> Pre: 29.2 (1.0; 59.9) <br> 3-month: 17.7 (1.6; 41.7) <br> GLTEQ $(P=.07)^{\circ}$ |  |
| :---: | :---: | :---: | :---: | :---: |


|  |  |  |  | T25-FW, ABC, BBS, MSSS, <br> MS Symptoms, MPAM-R, <br> PDDS ( $P>.1$ ) <br> Pre 6-month follow-up <br> All outcomes ( $P>.1$ ) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Scheidler et al, ${ }^{39}$ 2018; uncontrolled, before-and-after study | 8 (confirmed diagnosis); 8F/0M; <br> Age range, 36-65 years; <br> All RRMS; <br> EDSS range, 2.5-6.5 (mild disability-moderate disability); <br> Disease duration, NR | Targeted ballet; <br> Group, in-person; <br> 60 minutes x $2 /$ week for 16 weeks; <br> AE, 0 ; <br> Adherence, preset criteria of over $94 \%$ of classes <br> Dropouts, 2 | Ataxia (ICARS and smoothness of movement in 5-meter walk from motion capture data [UniLateral S-index]) <br> Balance (MBT and center of pressure measurements of balance in step-to-stand task [GBM]) | Pre-post, within group ICARS <br> Pre: $19.6 \pm 6.3$ <br> Post: $8.19 \pm 6.6$ <br> ( $P<.001$ )* <br> Cohen's $d=2.6$, huge ES <br> Unilateral S-index, right <br> Pre: $-81.7 \pm 10.9$ <br> Post: $-75 \pm 8.7$ <br> ( $P=.028$ )* <br> Cohen's $d=0.87$, large ES <br> Unilateral S-index, left <br> Pre: $-78.6 \pm 10.3$ <br> Post: $-73.2 \pm 7.5$ <br> ( $P=.027$ )* <br> Cohen's $d=0.87$, large ES <br> MBT <br> Pre: $16.6 \pm 5.0$ <br> Post: $23.6 \pm 2.6$ <br> ( $P=.001$ )* <br> Cohen's $d=1.2$, very large ES <br> GBM, back direction | Moderatehigh ( $80 \%$ quality criteria met) |


|  |  |  |  | Pre: $-4.82 \pm 6.9$ <br> Post: $-17 \pm 10.4$ $(P=.025)^{*}$ <br> Cohen's $d=.68$, medium ES <br> GBM, right, left, and front ( $P>.05$ ) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Ng et al, ${ }^{37}$ 2020; controlled, before-and-after study | 13 (confirmed diagnosis); <br> 12F/1M; <br> Age range, 40-59 years; <br> 12 RRMS/1 PPMS; <br> PDDS range, 1-4 (mild disability-cane use); <br> Disease duration, NR | Ballroom dance ( $\mathrm{n}=$ 7); <br> Group, in-person; <br> 60 minutes x 2 /week for 6 weeks; <br> AE, 0; <br> Adherence, all complete at least $75 \%$ sessions (preset criteria) <br> Dropouts, 0 <br> No-dance control group ( $\mathrm{n}=6$ ) | HR-QoL (PROMIS- <br> GH) <br> Self-efficacy (MSSE) <br> MS Exercise Selfefficacy <br> Fatigue (FIS) <br> Depression (BDI) <br> Balance (BBS, DGI) <br> Mobility (TUG) <br> Physical function <br> (MSFC: 9-HPT, T25- <br> FW, PASAT) <br> Exercise intensity (HR, RPE) | Within group, dance group: <br> PROMIS-GH ( $P=.03$ )* <br> Pre: $40(29,45)$ <br> Post: $42(34,48)$ <br> $\underline{\operatorname{MSFC}}(P=.03)^{*}$ <br> Pre: $0.25(-1.33,0.35)$ <br> Post: $0.47(-0.90,0.55)$ <br> PASAT $(P=.03)^{*}$ <br> Pre: $49(31,55)$ <br> Post: $55(45,60)$ <br> $\underline{\mathrm{FIS}}(P=.07)^{\circ}$ <br> $\underline{\mathrm{BDI}}(P=.07)^{\circ}$ <br> BBS $(P=.07)^{\circ}$ <br> TUG $(P=.08)^{\circ}$ <br> MSSE-Control ( $P=.46$ ), MSSE-Function ( $P=.18$ ), MS Exercise Self-efficacy ( $P=$ | Moderatehigh ( $80 \%$ quality criteria met) |


|  |  |  |  | $\begin{aligned} & .21), \text {, DGI }(P=.11), \underline{\text { 9HPT }}(P= \\ & .35), \underline{\text { T25-FW }}(P=.53) \end{aligned}$ <br> Within group, control group: <br> All outcomes ( $P>.1$ ) <br> Between dance \& control groups: PROMIS-GH $\overline{(P \leq .05)^{*}}$ <br> MSFC $\overline{(P \leq .05)^{*}}$ <br> PASAT $(P \leq .05)^{*}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Van Geel et al, ${ }^{36}$ 2020; <br> controlled, pilot, before-and-after study | 17 (confirmed diagnosis); 16F/1M; <br> Age range, 29-65 years; <br> MS Type, NR; <br> Disability status, cane ( $\mathrm{n}=$ 1), walker ( $\mathrm{n}=2$ ), crutch ( $\mathrm{n}=1$ ); <br> Disease duration range, 3 21 years | Choreo-based participatory dance ( n $=7$ ); <br> Group, in-person; <br> 90 minutes x $2 /$ week for 10 weeks; <br> AE, NR; <br> Adherence, NR; <br> Dropouts, 1 | Primary: <br> Fatigue (MFIS, FSS, <br> DWI, CFI) <br> Secondary: <br> Physical capacity <br> (6MWT, T25-FW, <br> ABC, DGI, 5TSTS, <br> MSWS-12, 9HPT) <br> Sensory function <br> (EmNSA) <br> Cognitive capacity <br> (SMDT, PASAT) | Within group, dance group. <br> Primary: <br> MFIS $(P=.03)^{*}$ <br> Pre: $43(19 ; 48)$ <br> Post: $26(6 ; 49)$ <br> MFIS physical $(P=.02)^{*}$ <br> Pre: $19(8 ; 24)$ <br> Post: 13 (3; 20) <br> FSS $(P=.31)$, DWI $(P=.87)$, <br> CFI ( $P=.25$ ) <br> Secondary: $5 \text { STS }(P=.04)^{*}$ | Moderate (60\% quality criteria met) |


|  |  | Control art group ( $\mathrm{n}=$ 10); <br> Group, in-person; <br> Approximately 90 minutes x $2 /$ week for 10 weeks; <br> AE, NR; <br> Adherence, NR | Dual Task Performance <br> HR-QoL (MSIS-29, SF-36) <br> Leg coordination | $\underline{\mathrm{ABC}}(P=.04)^{*}$ <br> MSWS-12 $(P=.046)^{*}$ <br> 9HPT-dominant ( $P=.02$ )* <br> DT - Cognitive ( $P=.03$ )* <br> Leg coordination $(P=.046)^{*}$ <br> PASAT $(P=.068)^{\circ}$ <br> $\underline{\text { MSIS-29 }}(P=.063)^{\circ}$ <br> $\underline{\text { DT Cost }}(P=.063)^{\circ}$ <br> Within group, art group: <br> Primary: <br> MFIS $(P=.005)^{*}$ <br> Pre: $48(41 ; 54)$ <br> Post: $42(28 ; 47)$ <br> MFIS, physical ( $P=.01)^{*}$ <br> Pre: $25(20 ; 30)$ <br> Post: $20(13 ; 23)$ <br> FSS $(P=.72)$, DWI $(P=.74)$, <br> CFI $(P=.45)$ <br> Secondary: <br> SDMT ( $P=.04$ )* <br> DT - Cognitive $(P=.02)^{*}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |


|  |  |  |  | $\underline{\text { PASAT }}(P=.085)^{\circ}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ```Camacho et al, 40 2021; uncontrolled, before-and-after study``` | 5 (confirmed diagnosis); <br> 4F/1M; <br> Age range, 38-64 years; <br> All RRMS; <br> EDSS, mean of $3.5 \pm 1.5$ <br> (mild-moderate <br> disability); <br> Disease duration, NR | Targeted ballet; <br> Group, in-person; <br> 60 minutes x 2 /week for 12 weeks; <br> AE, 0; <br> Adherence, mean hours of $21.8 \pm 4.65$ (preset criteria of 24 hours) <br> Dropouts, 0 | Ataxia (ICARS and smoothness of movement in 5-meter walk from motion capture data [Bilateral S-index]) <br> Balance (MBT) | Pre-post, within group: <br> ICARS $\overline{(P=.01) *}$ <br> Hedge's $g=-1.21$, large ES <br> MBT $(P=.015)^{*}$ <br> Hedge's $g=1.08$, large ES <br> Bilateral S-index $(P=.0499)^{*}$ <br> Hedge's $g=.69$, medium ES | Moderate (60\% quality criteria met) |
| Quantitative Descriptive Studies |  |  |  |  |  |
| Salgado and de Paula <br> Vasconcelos, ${ }^{43}$ 2010; case report | 1 (confirmed diagnosis); <br> Female; <br> Age, 45 years; <br> RRMS; <br> EDSS, 3 (moderate disability); <br> Disease duration, 10 years | Dance/movement therapy; <br> 1 on 1, in-person; <br> 100 minutes $\times 2$ / week for 20 weeks; <br> AE, NR; <br> Adherence and dropouts, N/A | Neurological disability (EDSS, MRD, NRS) | Pre-post changes <br> EDSS <br> Pre: 3 <br> Post: 2 (-1) <br> MRD <br> Pre: 6 <br> Post: 5 (-1) <br> NRS <br> Pre: 64 <br> Post: 71 (+7) | Low (40\% quality criteria met) |


|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Charlton et al, }{ }^{42} \\ & 2010 ; \\ & \text { evaluation } \end{aligned}$ | 11 (confirmed diagnosis); <br> 11F/0M; <br> Age range, 32-70 years; <br> MS type, NR; <br> Disability status, ambulatory without assistance ( $\mathrm{n}=7$ ), use walkers ( $n=4$ ); <br> Disease duration, NR | Jazzercise; <br> Group, in-person; <br> 45 minutes x 2 / week for 16 weeks; <br> AE, 0; <br> Adherence, 67-75\% <br> Dropouts, $\mathrm{n}=3$ | Questionnaire evaluating participantreported changes in balance, confidence, coordination, energy, flexibility, mood, and strength | Percentage agreed or strongly agreed outcome improved postintervention: <br> $56 \%$ balance and coordination $67 \%$ strength and flexibility $78 \%$ confidence $100 \%$ energy \& mood $100 \%$ enjoyment \& satisfaction with classes \& motivation to continue with classes | Low (40\% quality criteria met) |
| $\begin{aligned} & \text { Lachance et al, }{ }^{41} \\ & 2021 ; \\ & \text { single-case } \\ & \text { experimental } \\ & \text { study } \end{aligned}$ | 1 (confirmed diagnosis); +6 other people with reduced mobility <br> Female; <br> Age, 60 years; <br> MS Type, NR; <br> Disability status, walks with a limp; <br> Disease duration, NR | Clinical dance therapy; <br> Group, in-person; <br> 90 minutes x 2 / week for 12 weeks; <br> AE, NR; <br> Adherence, 71\% <br> Dropouts, N/A | Primary: <br> Mobility (FSST) <br> Secondary: <br> Mobility (MDRT- <br> behind, MBT) | Tau-U analysis <br> Primary: <br> FSST $\overline{(P=.86)}$ <br> Tau-U: 0.08 <br> Secondary: <br> MDRT-behind $(P=.034)^{*}$ <br> Tau-U: -1, Very large ES <br> MBT $\overline{(P=.034)^{*}}$ <br> Tau-U: 1, Very large ES | Moderate (60\% quality criteria met) |


| Ares-Benítez et al, ${ }^{44}$ 2021; case report | 1 (confirmed diagnosis); <br> Female; <br> Age, 49 years; <br> RRMS; <br> EDSS, 5 (moderate disability); <br> Disease duration, 24 years | Spanish dance \& physiotherapy; <br> 1 on 1, in-person; <br> 60 minutes x $5 /$ week for 3 weeks; <br> AE, NR; <br> Adherence \& dropouts, N/A | Spasticity (MAS) <br> Balance (BBS) <br> Walking endurance (6MWT) <br> Spatiotemporal gait patterns (Gaitrite) <br> Muscle strength (MMT) <br> Range of motion (goniometry) | Pre-post changes <br> BBS <br> Pre: 30 <br> Post: 55 (+25 points) <br> 6MWT <br> Pre: 427.24 m and $1.19 \mathrm{~m} / \mathrm{s}$ <br> Post: 465 m and $1.46 \mathrm{~m} / \mathrm{s}$ <br> ( +37.76 m and $+0.27 \mathrm{~m} / \mathrm{s}$ ) <br> MMT <br> Ankle dorsiflexors, +2 points Ankle plantar flexors, +1 point Knee and hip muscles, no change <br> MAS <br> Sural triceps, -1 point Quadriceps, hamstrings, psoas \& adductors, no change <br> Spatiotemporal gait parameters, left lower limb, right lower limb <br> Stride time (s), $-0.04,-0.02$ <br> Step length ( cm ) $,+12.6,+13.6$ <br> Stride length (cm) $,+26.4,+26.1$ <br> Base of support (cm), $+3.9,+2.8$ <br> Single support (\%GC), +5.2 , +3.3 <br> Double support (\%GC), -10.2, -9.8 <br> Balance (\%GC), $+3.3,+5.4$ | Low (40\% quality criteria met) |
| :---: | :---: | :---: | :---: | :---: | :---: |


|  |  |  |  | Speed (cm/s), +24.8 <br> Cadence (steps/minute), +4.6 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Mixed Methods Studies |  |  |  |  |  |
| $\begin{aligned} & \text { Mason, }{ }^{45} \text { 2020; } \\ & \text { thesis } \end{aligned}$ | 5 (self-reported diagnosis); <br> Sex, age, MS type, disability status, and disease duration, NR | Participatory dance; <br> Group, in-person; <br> 75 minutes x $1 /$ week for 6 weeks; <br> AE, NR; <br> Adherence, 93\% <br> Dropouts, $\mathrm{n}=0$ | Quantitative <br> Self-efficacy (MSSE- <br> 10) <br> Qualitative <br> Exit questionnaire | Quantitative <br> Pre-post, within group <br> MSSE-10 <br> Pre: 880 <br> Post: 906 $(P=.225)$ <br> Qualitative <br> Participants reported experiencing improvements in self-efficacy, self-confidence \& physical well-being. | Low (20\% quality criteria met) |
| Whiteside and Ruckert, ${ }^{46}$ 2020; evaluation | 22 (self-reported diagnosis) including $\mathrm{n}=$ 12 (AM group) and $\mathrm{n}=10$ (PM group) <br> 21F/1M; <br> Age, NR; <br> MS type, NR; <br> Disability status, multiple walking aids, wheelchairs ( $\mathrm{n}=2$ ); <br> Disease duration, NR | Participatory dance; <br> Group, in-person; <br> 75 minutes x 1/week for 10 weeks; <br> AE, NR; <br> Adherence \& dropouts, N/A (drop-in format) | Quantitative <br> Fatigue (FSS) <br> Balance confidence (ABC) <br> Gait (MSWS-12) <br> Qualitative <br>  <br> participant observation | Quantitative <br> Pre-post, within group <br> ABC <br> AM group ( $P>.05$ ) <br> PM group $(P=.07)^{\circ}$ <br> FSS <br> AM group $(P=.02)^{*}$ <br> Pre: 5.4 <br> Post: 4.7 <br> PM group $(P=.06)^{\circ}$ <br> MSWS-12 <br> AM group $(P=.06)^{\circ}$ | Moderate (60\% quality criteria met) |

$\left.\begin{array}{|l|l|l|l|l|l|}\hline & & & & \begin{array}{l}\text { PM group (P>.05) } \\ \text { Qualitative }\end{array} \\ \text { Participants reported } \\ \text { experiencing improvements in } \\ \text { body confidence \& awareness, } \\ \text { well-being, belonging \& } \\ \text { quality of life. }\end{array}\right)$

5STS, Five Times Sit-to-Stand; 6MWT, 6-Minute Walk Test; 9HPT, 9-Hole Peg Test; ABC, Activities-Specific Balance Confidence Scale; AE, adverse events; BBS, Berg Balance Scale; BDI, Beck Depression Inventory; CFI, Cognitive Fatigability Index; DGI, Dynamic Gait Index; DT, dual task; DWI, Distance Walked Index; EDSS, Expanded Disability Status Scal;, EmNSA, Erasmus modified Nottingham Sensory Assessment; ES, effect size; F, female; FIS, Fatigue Impact Scale; FSS, Fatigue Severity Scale; FSST, Four Square Step Test; GC, gait cycle; GLTEQ, Godin Leisure Time Exercise Questionnaire; HR, heart rate; HR-QoL, health-related quality of life; ICARS, International Cooperative Ataxia Rating Scale; M, male; MAS, Modified Ashworth Scale);MBT, MiniBalance Evaluation Systems Test; MDRT, Multi-Directional Reach Test; MFIS, Modified Fatigue Impact Scale; MMT, DanielsWorthingham Manual Muscle Test; MPAM-R, Motives for Physical Activity Measure-Revised; MRD, Minimal Record Disability; MSFC, MS Functional Composite Score; MSIS-29, MS Impact Scale-29; MSSE, Multiple Sclerosis Self-efficacy Scale; MSSS, MS Self-Efficacy Scale; MSWS-12, 12-Item Multiple Sclerosis Walking Scale; N/A, not applicable; NR, not reported; NRS, Scripps Neurologic Rating Scale; PASAT, Paced Auditory Serial Addition Test; PDDS, Patient Determined Disease Steps scale; PPMS, primary progressive MS; PROMIS-GH, Patient-Reported Outcomes Measurement Information System Global Health; RPE, rating of perceived exertion; RRMS, relapsing-remitting MS; T25-FW, Timed 25 -Foot Walk Test; TUG, Timed Up and Go; SF-36, Short Form Health Survey; SDMT, Symbol Digit Modalities Test; SPMS, secondary progressive MS.
${ }^{\text {a }}$ All people with MS unless otherwise specified.

* $P \leq .05$
${ }^{\circ}$ trend towards significance $(P<.1)$

Table S3. Examples of Qualitative Data

| Themes | Sample Qualitative Data |
| :--- | :--- |
| Theme 1: Body awareness and <br> physical confidence | "When I fell, again in the same place during the week, this time <br> instead of battering and bruising and injuring myself, I kept on <br> my feet because I automatically did that backward, straight leg, <br> and it kept me on my feet. It then let me reach forward and hold <br> onto the sink, so I could get my balance back.""46 |
|  | "I have noticed that I am more confident in trying things that I <br> thought I couldn't do, or that I knew I would end up exhausted <br> after, like running or stretching.""45 |
| Theme 2: Psychological well- <br> being | "I enjoy the class. Sometimes I end the class feeling tired but in a <br> better and more energetic mood. In those days where I felt tired <br> even before starting the class, I knew that I would not be forced <br> to do more than I was able to.""5 |
| Theme 3: Sense of belonging | "You're going somewhere where you don't have to explain as <br> much. Because I don't mind going in and saying 'this is what my <br> symptoms are; this is what I find difficult; this is what I want to <br> get out of it,' but it's more just that when I'm saying that, I don't <br> then have to explain what that actually means on top of having to <br> have that initial explanation." |
|  | "The class is a totally nonjudgmental atmosphere, so self- <br> conscious inhibition is minimal."45 |
| Theme 4: Social relationships | "When you feel the heat and it is heat that comes into your <br> body...you're smiling; you're feeling warmer. And I think when <br> you see each other and we're passing and you're smiling, I love |


|  | that part when you're just doing the dancing with each other and <br> that's lovely.""6 |
| :--- | :--- |
| "This image reflects union, and it is what I have felt with my |  |
| daughter in the last activity of embracing slowly. It is something |  |
| we never do and should being such a simple and good gesture, we |  |
| should do it more often." 47 (translated from Spanish to English) |  |$\quad$

Table S4. Mixed Methods Appraisal Tool (MMAT) Quality Assessment

| Studies | Qualitative studies |  |  |  |  | Randomized controlled trials |  |  |  |  | Nonrandomized studies |  |  |  |  | Quantitative descriptive studies |  |  |  |  | Mixed-methods studies |  |  |  |  | MMAT score | Overall quality |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Author, Date, Design | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 5.1 | 5.2 | 5.3 | 5.4 | 5.5 |  | 年 |
| Baeza and Fuertes, ${ }^{47} 2022$ | Y | Y | CT | N | N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ** |  |
| Young et al, ${ }^{35}$ 2019; proof-ofconcept trial |  |  |  |  |  | Y | Y | N | Y | N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | *** | Modera意 <br>  |
| Mandelbaum et al, ${ }^{38}$ 2016; uncontrolled, before-and-after study |  |  |  |  |  |  |  |  |  |  | Y | Y | CT | N | Y |  |  |  |  |  |  |  |  |  |  | *** |  |
| Scheidler et al, ${ }^{39}$ 2018; <br> uncontrolled, before-and-after study |  |  |  |  |  |  |  |  |  |  | Y | Y | Y | Y | CT |  |  |  |  |  |  |  |  |  |  | **** | Moderatehigh |
| Ng et al, ${ }^{37}$ 2020; controlled, before-and-after study |  |  |  |  |  |  |  |  |  |  | N | Y | Y | Y | Y |  |  |  |  |  |  |  |  |  |  | **** |  |
| Van Geel et al, ${ }^{36}$ 2020; controlled, before-and-after study |  |  |  |  |  |  |  |  |  |  | Y | Y | Y | N | CT |  |  |  |  |  |  |  |  |  |  | *** |  |
| Camacho et al, ${ }^{40}$ 2021; <br> uncontrolled, before-and-after study |  |  |  |  |  |  |  |  |  |  | CT | Y | Y | Y | CT |  |  |  |  |  |  |  |  |  |  | *** | Moderate <br>  |
| Salgado and de <br> Paula <br> Vasconcelos, ${ }^{43}$ <br> 2010; case report |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | CT | N | Y | Y | CT |  |  |  |  |  | ** | Low $\stackrel{\smile}{5}$ <br>   <br>   <br>   |
| Charlton et al, ${ }^{42}$ 2010; survey |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | N | N | N | Y | Y |  |  |  |  |  | ** | Low |



