**Comparing the Effectiveness of Five Traditional Chinese Exercises in Improving Balance Function in Older Adults: A Systematic Review and Network Meta-Analysis**

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# Appendix A-Traditional Chinese exercises characteristics

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Exercise  | characteristics | number of movements | Strength | target group | limitations |
| Baduanjin | A full-body movement consisting of eight postures. | 8 | Flexibility and stability of the spine. | All ages | Without limit |
| Liuzijue | A kind of Qigong, combines breathing exercises of six different sounds, namely “Chui,” “Hu,” “Xi,” “He,” “Xu,” and “Si”. | 6 | Oxygen supply, walking stability | All ages | Without limit |
| Tai Chi | It includes multiple one-foot and two-foot power shifts, combined with meditative mind-body exercises. | 24 | Postural stability, lower limbs | All ages | Without limit |
| Wuqinxi | Imitating the movements of five animals (tiger, deer, bear, ape and crane). | 5 | Muscle strength, joint stability | All ages | Without limit |
| Yijinjing | A large number of stretching exercise. | 12 | Flexibility, joint range of motion, stretch the muscles | All ages | Without limit |

# Appendix B-Search strategy

|  |  |
| --- | --- |
| Database | Syntax |
| PUBMED | 1. "Tai Ji"[Mesh]
2. "Qigong"[Mesh]
3. baduanjin[Title/Abstract]
4. wuqinxi[Title/Abstract]
5. yijinjing[Title/Abstract]
6. ((((((((((Tai-ji[Title/Abstract]) OR (Tai Chi[Title/Abstract])) OR (Chi, Tai[Title/Abstract])) OR (Tai Ji Quan[Title/Abstract])) OR (Ji Quan, Tai[Title/Abstract])) OR (Quan, Tai Ji[Title/Abstract])) OR (Taiji[Title/Abstract])) OR (Taijiquan[Title/Abstract])) OR (Tai Chi[Title/Abstract])) OR (Tai Chi Chuan[Title/Abstract])) OR (Tai Ji[Title/Abstract])
7. ("Tai Ji"[Mesh]) OR (((((((((((Tai-ji[Title/Abstract]) OR (Tai Chi[Title/Abstract])) OR (Chi, Tai[Title/Abstract])) OR (Tai Ji Quan[Title/Abstract])) OR (Ji Quan, Tai[Title/Abstract])) OR (Quan, Tai Ji[Title/Abstract])) OR (Taiji[Title/Abstract])) OR (Taijiquan[Title/Abstract])) OR (Tai Chi[Title/Abstract])) OR (Tai Chi Chuan[Title/Abstract])) OR (Tai Ji[Title/Abstract]))
8. ((old people[Title/Abstract]) OR (elderly[Title/Abstract])) OR (aged[Title/Abstract])
9. "Aged"[Mesh]
10. ("Aged"[Mesh]) OR (((old people[Title/Abstract]) OR (elderly[Title/Abstract])) OR (aged[Title/Abstract]))
11. "Accidental Falls"[Mesh]
12. "Muscle Strength"[Mesh]
13. (((((Falls[Title/Abstract]) OR (Falling[Title/Abstract])) OR (Falls, Accidental[Title/Abstract])) OR (Slip[Title/Abstract] AND Fall[Title/Abstract])) OR (Fall[Title/Abstract] AND Slip[Title/Abstract])) OR (Accidental Fall[Title/Abstract])
14. Balance[Title/Abstract]
15. ("Accidental Falls"[Mesh]) OR ((((((Falls[Title/Abstract]) OR (Falling[Title/Abstract])) OR (Falls, Accidental[Title/Abstract])) OR (Slip[Title/Abstract] AND Fall[Title/Abstract])) OR (Fall[Title/Abstract] AND Slip[Title/Abstract])) OR (Accidental Fall[Title/Abstract]))
16. ((((Arthrogenic Muscle Inhibition[Title/Abstract]) OR (Inhibition, Arthrogenic Muscle[Title/Abstract])) OR (Muscle Inhibition, Arthrogenic[Title/Abstract])) OR (Strength, Muscle[Title/Abstract])) OR (Arthrogenic Muscle Inhibitions[Title/Abstract])
17. ("Muscle Strength"[Mesh]) OR (((((Arthrogenic Muscle Inhibition[Title/Abstract]) OR (Inhibition, Arthrogenic Muscle[Title/Abstract])) OR (Muscle Inhibition, Arthrogenic[Title/Abstract])) OR (Strength, Muscle[Title/Abstract])) OR (Arthrogenic Muscle Inhibitions[Title/Abstract]))
18. ("Muscle Strength"[Mesh]) OR (((((Arthrogenic Muscle Inhibition[Title/Abstract]) OR (Inhibition, Arthrogenic Muscle[Title/Abstract])) OR (Muscle Inhibition, Arthrogenic[Title/Abstract])) OR (Strength, Muscle[Title/Abstract])) OR (Arthrogenic Muscle Inhibitions[Title/Abstract]))
19. (((("Qigong"[Mesh]) OR (baduanjin[Title/Abstract])) OR (wuqinxi[Title/Abstract])) OR (yijinjing[Title/Abstract])) OR (("Tai Ji"[Mesh]) OR (((((((((((Tai-ji[Title/Abstract]) OR (Tai Chi[Title/Abstract])) OR (Chi, Tai[Title/Abstract])) OR (Tai Ji Quan[Title/Abstract])) OR (Ji Quan, Tai[Title/Abstract])) OR (Quan, Tai Ji[Title/Abstract])) OR (Taiji[Title/Abstract])) OR (Taijiquan[Title/Abstract])) OR (Tai Chi[Title/Abstract])) OR (Tai Chi Chuan[Title/Abstract])) OR (Tai Ji[Title/Abstract])))
20. (((("Accidental Falls"[Mesh]) OR ((((((Falls[Title/Abstract]) OR (Falling[Title/Abstract])) OR (Falls, Accidental[Title/Abstract])) OR (Slip[Title/Abstract] AND Fall[Title/Abstract])) OR (Fall[Title/Abstract] AND Slip[Title/Abstract])) OR (Accidental Fall[Title/Abstract]))) OR (Balance[Title/Abstract]))) OR (("Muscle Strength"[Mesh]) OR (((((Arthrogenic Muscle Inhibition[Title/Abstract]) OR (Inhibition, Arthrogenic Muscle[Title/Abstract])) OR (Muscle Inhibition, Arthrogenic[Title/Abstract])) OR (Strength, Muscle[Title/Abstract])) OR (Arthrogenic Muscle Inhibitions[Title/Abstract])))
21. (((((("Accidental Falls"[Mesh]) OR ((((((Falls[Title/Abstract]) OR (Falling[Title/Abstract])) OR (Falls, Accidental[Title/Abstract])) OR (Slip[Title/Abstract] AND Fall[Title/Abstract])) OR (Fall[Title/Abstract] AND Slip[Title/Abstract])) OR (Accidental Fall[Title/Abstract]))) OR (Balance[Title/Abstract]))) OR (("Muscle Strength"[Mesh]) OR (((((Arthrogenic Muscle Inhibition[Title/Abstract]) OR (Inhibition, Arthrogenic Muscle[Title/Abstract])) OR (Muscle Inhibition, Arthrogenic[Title/Abstract])) OR (Strength, Muscle[Title/Abstract])) OR (Arthrogenic Muscle Inhibitions[Title/Abstract])))) AND ((((("Qigong"[Mesh]) OR (baduanjin[Title/Abstract])) OR (wuqinxi[Title/Abstract])) OR (yijinjing[Title/Abstract])) OR (("Tai Ji"[Mesh]) OR (((((((((((Tai-ji[Title/Abstract]) OR (Tai Chi[Title/Abstract])) OR (Chi, Tai[Title/Abstract])) OR (Tai Ji Quan[Title/Abstract])) OR (Ji Quan, Tai[Title/Abstract])) OR (Quan, Tai Ji[Title/Abstract])) OR (Taiji[Title/Abstract])) OR (Taijiquan[Title/Abstract])) OR (Tai Chi[Title/Abstract])) OR (Tai Chi Chuan[Title/Abstract])) OR (Tai Ji[Title/Abstract]))))) AND (("Aged"[Mesh]) OR (((old people[Title/Abstract]) OR (elderly[Title/Abstract])) OR (aged[Title/Abstract])))

=541 |
| EMBASE | 1. 'tai chi'/exp
2. 'qigong'/exp
3. 'tai-ji':ab,ti
4. 'tai ji quan':ab,ti
5. 'ji quan, tai':ab,ti
6. 'tai ji':ab,ti
7. 'taijiquan':ab,ti
8. 'tai chi chuan':ab,ti
9. 'baduanjin':ab,ti
10. 'wuqinxi':ab,ti
11. 'yijinjing':ab,ti
12. 'qi gong':ab,ti
13. 'chi kung':ab,ti
14. #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13
15. 'aged':ab,ti
16. 'elderly':ab,ti
17. 'old people':ab,ti
18. #15 OR #16 OR #17
19. 'accidental falls':ab,ti
20. 'falls':ab,ti
21. 'falling':ab,ti
22. 'accidental fall':ab,ti
23. 'slip and fall':ab,ti
24. 'balance':ab,ti
25. 'muscle strength':ab,ti
26. 'arthrogenic muscle inhibition':ab,ti
27. 'arthrogenic muscle inhibitions':ab,ti
28. #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26
29. 'randomized controlled trial'/exp
30. #14 AND #18 AND #28 AND #30

=342 |
| COCHRANE | 1. MeSH descriptor: [Tai Ji] explode all trees
2. MeSH descriptor: [Qigong] explode all trees
3. (Tai Chi):ti,ab,kw OR (Chi, Tai):ti,ab,kw OR (Tai ji Quan):ti,ab,kw OR (Ji Quan, Tai):ti,ab,kw OR (Quan, Tai Ji):ti,ab,kw
4. (Taiji):ti,ab,kw OR (Taijiquan):ti,ab,kw OR (Tai Chi Chuan):ti,ab,kw OR (baduanjin):ti,ab,kw OR (wuqinxi):ti,ab,kw
5. (yijinjing):ti,ab,kw OR (Qigong):ti,ab,kw OR (Qi Gong):ti,ab,kw OR (Chi Kung):ti,ab,kw
6. #1 OR #2 OR #3 OR #4 OR #5
7. MeSH descriptor: [Aged] explode all trees
8. (elderly):ti,ab,kw OR (old people):ti,ab,kw
9. #7 OR #8
10. MeSH descriptor: [Accidental Falls] explode all trees
11. (Falls):ti,ab,kw OR (falling):ti,ab,kw OR (Slip and Fall):ti,ab,kw OR (Balance):ti,ab,kw OR (Arthrogenic Muscle Inhibition):ti,ab,kw
12. MeSH descriptor: [Muscle Strength] explode all trees
13. #10 OR #11 OR #12
14. (randomized controlled trail): ti, ab,kw OR (randomly):ti,ab,kw
15. #6 AND #9 AND #13 AND #14

=209 |
| WEB OF SCIENCE | 1. "TS=(Tai Ji) OR TS=(Tai chi) OR TS= (Chi Tai) OR TS=(Tai Ji Quan) OR TS=(Ji Quan, Tai) OR
2. TS=(Quan Tai Ji) OR TS=(Quan, Tai Ji) OR TS=(TaiJi) OR TS=(Taijiquan) OR TS=(Tai Chi Chuan) OR TS=(Baduanjin) OR TS=(wuqinxi) OR TS=(yijinjing) OR TS=(qigong) OR TS=(Qi Gong) OR TS=(Chi Kung)
3. "TS=(Accidental Falls) OR TS=(Falls) OR TS= (Falling) OR TS=(Falls, Accidental) OR TS=(Accidental Fall) OR TS=(Slip and Fall) OR TS=(Balance) OR TS=(Muscle Strength) OR TS=(Arthrogenic Muscle Inhibition)
4. "TS=(aged) OR TS=(elderly) OR TS= (old people)”
5. “TS=( randomized controlled trial) OR TS= (randomly)
6. "#1 AND #2 AND #3 AND #4 AND #5"

=1173 |
| CNKI | SU =('太极' + '六字诀' + '五禽戏' + '易筋经' + '八段锦') AND SU=（'老年人' +'老人' +'老龄+老年'）AND SU =('平衡' + '下肢肌力' + '跌倒' + '滑倒') =44 |
| Wan Fang | 主题:("太极" or "六字诀" or "五禽戏" or "易筋经" or "八段锦") and 主题:("老年人" or “老人” or “老龄” or “老年”) and 主题:("平衡" or "下肢肌力" or "跌倒" or "滑倒")=41 |
| VIP database | 主题:("太极" or "六字诀" or "五禽戏" or "易筋经" or "八段锦") and 主题:("老年人" or “老人” or “老龄” or “老年”) and 主题:("平衡" or "下肢肌力" or "跌倒" or "滑倒")=30 |

# Appendix C-Basic Characteristics of Included Studies

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Reference** | **Country/Area** | **Sample size** | **Gender (M/F)** | **Average Age** | **Duration (min\*times\*week)** |
|
| **SLSC** |
| Audette, 2006 | USA | Tai chi: 11Control: 8 | F19 | 71.5±4.671.3±4.4 | Tai chi: 60\*3\*12Brisk walking: 60\*3\*12 |
| Chen, 2021 | Taiwan | Tai chi: 36Control: 32 | M6/F62 | 77.4 ± 5.975.4 ± 6.4 | Tai chi: 60\*2\*12 |
| Cui, 2018 | China | Tai chi: 45Control: 45 | M40/F50 | 66.82±5.2367.25±5.11 | Tai chi: 60\*7\*12Brisk walking: 60\*7\*12 |
| Hu, 2007 | Japan | Tai chi: 27Control: 24 | M29/F25 | 64.0±2.864.2±2.9 | Tai chi: 60\*1\*12 |
| Huang, 2022 | China | Yijinjing: 26Control: 21 | M11/F36 | 62.0±5.063.5±4.7 | Yijinjing: 60\*5\*24 |
| Li, 2005 | USA | Tai chi: 25Control: 131 | M77/F179 | 76.94±4.6977.99±5.14 | Tai chi: 60\*3\*26 |
| Li, 2008 | Hong Kong | Tai Chi: 22Control: 18 | M20/F20 | 64.9±3.265.6±3.5 | Tai chi: 60\*4\*16 |
| Li, 2019 | China | Baduanjin: 44Control: 44 | M28/F60 | 65.5 ±5.165.5 ±5.1 | Baduanjin: (30-40)\*7\*24 |
| Lu, 2015 | China | Tai chi: 31Control: 30 | F61 | 62.14±5.5262.85±5.29 | Tai chi: 40\*6\*52Walking: 40\*6\*52 |
| Sun, 2008 | China | Baduanjin: 19Control: 20 | M39 | 65.7±2.364.8±2.3 | Baduanjin: (40-50)\*5\*12 |
| Sun, 2019 | China | Tai chi: 12Control: 11 | F23 | 64.12 ± 3.2165.36 ± 4.31 | Tai chi: 60\*5\*16 |
| Yao, 2008 | China | Tai chi: 21Control: 20 | F41 | 64.2±3.5865.4±3.60 | Tai chi: 60\*(5-7)\*24 |
| Yildirim, 2016 | Turkey | Tai chi: 30Control: 30 | M7/F53 | 62.9±6.564.4±7.5 | Tai chi: 60\*3\*12Combined exercise prescription: 60\*3\*12 |
| Zhai, 2013 | China | Baduanjin: 22Control: 22 | M40 | 64.9+2.564.8+2.7 | Baduanjin: (40-50)\*5\*8 |
| Zhu, 2008 | China | Wuqinxi: 45Control: 30 | F75 | 63.4±1.862.8±1.4 | Wuqinxi: 45\*7\*16 |
| Zhu, 2016 | China | Tai chi: 30Control: 30 | M23/F37 | 64±464±3 | Tai chi: 120\*5\*18 |
| **TUGT** |  |  |  |  |  |
| Aviles, 2019 | USA | Tai chi: 27Control: 32 | M35/F24 | 82.6±4.580.9±6.2 | Tai chi 30\*3\*4Reactive Balance Training 30\*3\*4 |
| Cao, 2021 | China | Wuqinxi: 31Control: 31 | M41/F21 | 62.45±2.8762.97±3.27 | Wuqinxi 30\*5\*8Regular exercise 30\*5\*8 |
| Fang, 2020 | China | Yijinjing: 18Control: 18 | M12/F24 | 82.8±8.576.3±9.9 | Yijinjing: (25-30)\*3\*24Regular exercise: (25-30)\*3\*24 |
| Gatts, 2006 | USA | Tai chi: 11Control: 8 | M2/F17 | 77.55 | Tai chi: 90\*5\*3 |
| Hu, 2007 | Japan | Tai chi: 27Control: 24 | M29/F25 | 64.0±2.864.2±2.9 | Tai chi: 60\*1\*12 |
| Huang, 2010 | Taiwan | Tai chi:31Control:47 | M50/F28 | 71.40±0.4971.50±1.01 | Tai chi40\*3\*20 |
| Kim, 2020 | Korea | Tai chi: 23Taekkyon: 23 | F46 | 71.4±3.370.9±4.3 | Tai chi: 60\*2\*12Taekkyon: 60\*2\*12 |
| Li, 2005 | USA | Tai chi: 25Control: 131 | M77/F179 | 76.94±4.6977.99±5.14 | Tai chi: 60\*3\*26 |
| Li, 2019 | China | Baduanjin: 44Control: 44 | M28/F60 | 65.5 ±5.165.5 ±5.1 | Baduanjin: (30-40)\*7\*24 |
| Li, 2021 | USA | Tai chi: 15Control: 15 | M9/F21 | 76.13±6.276.20±6.3 | Tai chi: 60\*2\*24Stretching exercise: 60\*2\*24 |
| Penn, 2019 | Taiwan | Tai chi: 15Control: 15 | M15/F25 | 75.27 ± 5.2073.4 ± 8.2 | Tai chi: 30\*3\*8 |
| Pluchino, 2012 | USA | Tai chi: 11Control: 8 | M22/F12 | 62.9±6.570.72±8.46 | Tai chi: 60\*2\*8 |
| Son, 2016 | Korea | Tai chi: 21Control: 24 | M22/F96 | 71.5±3.672.8±4.7 | Tai chi: 60\*2\*12Otago: 60\*2\*12 |
| Song, 2022 | China | Tai chi: 20Control: 20 | F40 | 64.15 ± 8.5664.15 ± 8.56 | Tai chi: 60\*3\*12 |
| Taylor, 2012 | Australia | Tai chi: 233Control: 231 | M127/F337 | 75.3±7.073.7±6.2 | Tai chi: 60\*2\*20Low-level exercise program control group: 60\*2\*20 |
| Tousignant, 2012 | Canada | Tai chi: 76Control: 76 | M54/F146 | 79.1±6.480.7±6.0 | Tai chi: 60\*2\*15 |
| Wang, 2020 | China | Liuzijue: 20Control: 21 | M23/F18 | 64.23±5.1464.64±7.43 | Liuzijue: 45\*5\*6Regular exercise: 90\*5\*6 |
| Xiao, 2016 | China | Baduanjin: 48Control: 48 | M67/F29 | 68.17±2.2766.52±2.13 | Baduanjin 45\*4\*24 + Walk: 30\*7\*48Walking: 30\*7\*48 |
| Xiao, 2021 | China | Wuqinxi: 34Control: 34 | M23/F45 | 70.7±9.3670.2±10.35 | Wuqinxi: 60\*4\*12 + Walking: 30\*7\*12Aerobic training: 30\*4\*12 |
| Yildirim, 2016 | Turkey | Tai chi: 30Control: 30 | M7/F53 | 62.9±6.564.4±7.5 | Tai chi: 60\*3\*12Combined exercise prescription: 60\*3\*12 |
| Zhang, 2015 | China | Tai chi: 20Control: 20 | M23/F16 | 66.00 ±11.8064.35±10.53 | Tai chi: 60\*2\*12Multimodal exercise training: 60\*2\*12 |
| **BBS** |  |  |  |  |  |
| Aviles, 2019 | USA | Tai chi:27Control:32 | M35/F24 | 82.6±4.580.9±6.2 | Tai chi 30\*3\*4Reactive Balance Training 30\*3\*4 |
| Cao, 2021 | China | Wuqinxi:31Control:31 | M41/F21 | 62.45±2.8762.97±3.27 | Wuqinxi 30\*5\*8Regular exercise 30\*5\*8 |
| Li, 2005 | USA | Tai chi: 25Control: 131 | M77/F179 | 76.94±4.6977.99±5.14 | Tai chi: 60\*3\*26 |
| Li, 2019 | China | Baduanjin: 44Control: 44 | M28/F60 | 65.5 ±5.165.5 ±5.1 | Baduanjin: (30-40)\*7\*24 |
| Logghe, 2009(Logghe et al. 2009) | Netherlands | Tai chi: 138Control: 131 | M78/F191 | 77.5±4.776.8±4.6 | Tai chi: 60\*2\*13 |
| Luo, 2022 | China | Yijinjing: 24Control: 24 | M38/F10 | 66.25±6.2468.08±5.90 | Yijinjing: 100+30\*5\*4Regular exercise: 100\*5\*4 |
| Penn, 2019 | Taiwan | Tai chi: 15Control: 15 | M15/F25 | 75.27 ± 5.2073.4 ± 8.2 | Tai chi: 30\*3\*8 |
| Saravanakumar, 2014 | Australia | Tai chi: 11Control: 11 | M5/F15 | 81.1±8.085.4±9.1 | Tai chi: 30\*2\*14 |
| Song, 2022 | China | Tai chi: 20Control: 20 | F40 | 64.15 ± 8.5664.15 ± 8.56 | Tai chi: 60\*3\*12 |
| Tousignant, 2012 | Canada | Tai chi: 76Control: 76 | M54/F146 | 79.1±6.480.7±6.0 | Tai chi: 60\*2\*15 |
| Wang, 2022 | China | Liuzijue: 32Control: 31 | M48/F15 | 65.25±9.2160.65±12.21 | Liuzijue: 35+20\*5\*4Regular exercise: 35\*5\*4 |
| Xiao, 2016 | China | Baduanjin: 48Control: 48 | M67/F29 | 68.17±2.2766.52±2.13 | Baduanjin 45\*4\*24 + Walk: 30\*7\*48Walking: 30\*7\*48 |
| Xiao, 2021 | China | Wuqinxi: 34Control: 34 | M23/F45 | 70.7±9.3670.2±10.35 | Wuqinxi: 60\*4\*12 + Walking: 30\*7\*12Aerobic training: 30\*4\*12 |
| Yildirim, 2016 | Turkey | Tai chi: 30Control: 30 | M7/F53 | 62.9±6.564.4±7.5 | Tai chi: 60\*3\*12Combined exercise prescription: 60\*3\*12 |
| Zhang, 2015 | China | Tai chi: 20Control: 20 | M23/F16 | 66.00 ±11.8064.35±10.53 | Tai chi: 60\*2\*12Multimodal exercise training: 60\*2\*12 |
| Zhang, 2023 | China | Wuqinxi: 32Control: 28 | F34/M26 | 60.21 ± 9.0260.25 ± 9.03 | Wuqinxi: (30-50)\*5\*12Regular exercise: 40\*3\*12 |
| Zheng, 2021 | China | Liuzijue: 30Control: 30 | M43/F17 | 63.50±10.3667.23±9.15 | Rehabilitation training + Liuzijue: 45\*5\*3 |
| Zhu, 2016 | China | Tai chi: 30Control: 30 | M23/F37 | 64±464±3 | Tai chi: 120\*5\*18 |
| **6MWT** |  |  |  |  |  |
| An, 2008 | China | Baduanjin:14Control:14 | F28 | 65.4±8.264.6±6.7 | Badaunjin 30\*5\*8 |
| Chan, 2013 | Hong Kong | Tai chi: 70Control: 67 | M10/F127 | 71.7±8.273.6±7.4 | Tai chi: 60\*1\*12 |
| Kantatong, 2019 | Thailand | Tai chi: 25Control: 25 | M34/F16 | 69.68±7.6767.48±10.17 | Tai chi: Unknown\*(3-5)\*24 |
| Li, 2018 | China | Liuzijue: 17Control: 19 | M28/F8 | 66±966±9 | Liuzijue: 60\*6\*26 |
| Li, 2019 | China | Tai chi: 54Control: 53 | M50/F57 | 69.6±4.368.5±3.5 | Tai chi: 45\*5\*14Regular exercise: 45\*7\*14 |
| Xiao, 2016 | China | Baduanjin: 48Control: 48 | M67/F29 | 68.17±2.2766.52±2.13 | Baduanjin: 45\*4\*24 + Walking: 30\*7\*48Walking: 30\*7\*48 |
| Xiao, 2021 | China | Wuqinxi: 34Control: 34 | M23/F45 | 70.7±9.3670.2±10.35 | Wuqinxi: 60\*4\*12 + Walking: 30\*7\*12Aerobic training: 30\*4\*12 |
| **SF-36PCS** |  |  |  |  |  |
| An, 2008 | China | Baduanjin:14Control:14 | F28 | 65.4±8.264.6±6.7 | Badaunjin 30\*5\*8 |
| Li, 2019 | China | Baduanjin: 44Control: 44 | M28/F60 | 65.5 ±5.165.5 ±5.1 | Baduanjin: (30-40)\*7\*24 |
| Song, 2022 | China | Tai chi: 20Control: 20 | F40 | 64.15 ± 8.5664.15 ± 8.56 | Tai chi: 60\*3\*12 |
| Wu, 2015 | China | Baduanjin: 20Control: 20 | NA | 63.9±7.665.3±6.0 | Baduanjin: 30\*5\*12 |
| Xiao, 2015 | China | Liuzijue: 63Control: 63 | M9/F117 | 72.2±1.770.9±1.4 | Liuzijue: 45\*4\*26 + Walking: 30\*7\*26Walking: 30\*7\*26 |

Note. M = Male(s); F = Female(s); SLSC, Single-leg stand with eyes closed; TUGT, Time up and go test; BBS, Berg balance scale; 6MWT, 6 minutes walking test; the SF-36PCS, Medical Outcomes Study 36-Item Physical Component Summary, Physical Component Summary.

# Appendix D-Risks of bias figures and tables for included RCTs

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**(a) Risk of bias graph: an overall risk of bias of each domain**

****

**(b) Risk of bias summary: the risk of bias of each domain in each study.**

**(c) Risk of bias details: an overall risk of bias of each domain**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Study ID | Random sequence generation | Allocation concealment | Blinding of participants and personnel | Blinding of outcome assessment | Incomplete outcome data | Selective reporting | Other bias |
| An2008 | unclear | unclear | unclear | unclear | low risk | low risk | unclear |
| Audette2006 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Aviles2019 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Cao2021 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Chan2013 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Chen2021 | unclear | unclear | low risk | low risk | low risk | low risk | unclear |
| Cui2018 | unclear | unclear | unclear | unclear | low risk | low risk | unclear |
| Fang2020 | low risk | unclear | unclear | unclear | low risk | low risk | unclear |
| Gatts2006 | unclear | unclear | unclear | unclear | low risk | low risk | unclear |
| Hu2007 | low risk | unclear | unclear | unclear | low risk | low risk | unclear |
| Huang2010 | low risk | unclear | unclear | unclear | low risk | low risk | unclear |
| Huang2022 | unclear | unclear | unclear | unclear | low risk | low risk | unclear |
| Kantatong2020 | unclear | unclear | low risk | low risk | low risk | low risk | unclear |
| Kim2020 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Li2005 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Li2008 | unclear | unclear | unclear | unclear | low risk | low risk | unclear |
| Li2018 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Li2019 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Li2019(2) | low risk | unclear | unclear | unclear | low risk | low risk | unclear |
| Li2021 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Logghe2009 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Lu2015 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Luo2022 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Penn2019 | unclear | unclear | low risk | low risk | low risk | low risk | unclear |
| Pluchino2012 | low risk | unclear | unclear | unclear | low risk | low risk | unclear |
| Saravanakumar2014 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Son2016 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Song2022 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Sun2008 | unclear | unclear | unclear | unclear | low risk | low risk | unclear |
| Sun2019 | low risk | unclear | unclear | unclear | low risk | low risk | unclear |
| Taylor2012 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Tousignant2013 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Wang2020 | low risk | unclear | unclear | unclear | low risk | low risk | unclear |
| Wang2022 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Wu2015 | unclear | unclear | unclear | unclear | low risk | low risk | unclear |
| Xiao2015 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Xiao2016 | unclear | unclear | low risk | low risk | low risk | low risk | unclear |
| Xiao2021 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Yao2008 | unclear | unclear | unclear | unclear | low risk | low risk | unclear |
| Yildirim2016 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Zhai2013 | unclear | unclear | unclear | unclear | low risk | low risk | unclear |
| Zhang2015 | low risk | unclear | unclear | unclear | low risk | low risk | unclear |
| Zhang2023 | unclear | unclear | unclear | unclear | low risk | low risk | unclear |
| Zheng2021 | low risk | unclear | low risk | low risk | low risk | low risk | unclear |
| Zhu2008 | unclear | unclear | unclear | unclear | low risk | low risk | unclear |
| Zhu2016 | low risk | unclear | unclear | unclear | low risk | low risk | unclear |

# Appendix E-League Table

|  |
| --- |
| League Table |
| B1. SLSC League Table |
| Baduanjin |  |  |  |  |  |
| 2.71 (-2.3, 7.72) | Control |  |  |  |  |
| -0.84 (-6.91, 4.56) | -3.57 (-6.66, -1.12) | Taichi |  |  |  |
| -0.23 (-10.2, 9.84) | -2.95 (-11.62, 5.81) | 0.62 (-8.17, 10.08) | Wuqinxi |  |  |
| 1.71 (-11.16, 14.54) | -1 (-12.89, 10.91) | 2.61 (-9.4, 14.99) | 1.92 (-12.79, 16.63) | Yijinjing |  |
| B2. TUGT League Table |
| Baduanjin |  |  |  |  |  |
| -2.49 (-5.06, 0.16) | Control |  |  |  |  |
| 4.28 (-0.85, 9.42) | 6.76 (2.35, 11.17) | Liuzijue |  |  |  |
| -2.52 (-5.25, 0.27) | -0.03 (-0.89, 0.79) | -6.79 (-11.28, -2.31) | Taichi |  |  |
| -0.41 (-3.8, 3.05) | 2.08 (-0.11, 4.28) | -4.68 (-9.62, 0.25) | 2.11 (-0.22, 4.48) | Wuqinxi |  |
| 0.32 (-4.14, 4.8) | 2.8 (-0.82, 6.43) | -3.97 (-9.64, 1.75) | 2.82 (-0.88, 6.57) | 0.72 (-3.51, 4.97) | Yijinjing |
| B3. BBS League Table |
| Baduanjin |  |  |  |  |  |
| 5.04 (2.67, 7.24) | Control |  |  |  |  |
| 0.23 (-3.91, 4.26) | -4.8 (-8.22, -1.4) | Liuzijue |  |  |  |
| 4.2 (1.64, 6.59) | -0.85 (-1.77, 0.1) | 3.95 (0.44, 7.51) | Taichi |  |  |
| 2.12 (-0.73, 4.85) | -2.92 (-4.52, -1.27) | 1.88 (-1.87, 5.69) | -2.08 (-3.93, -0.17) | Wuqinxi |  |
| -0.78 (-4.98, 3.37) | -5.8 (-9.31, -2.29) | -1 (-5.89, 3.91) | -4.96 (-8.58, -1.33) | -2.88 (-6.74, 0.95) | Yijinjing |
| B4. 6WMT League Table |
| Baduanjin |  |  |  |  |  |
| 7.09 (-1.57, 15.71) | Control |  |  |  |  |
| -4.28 (-14.4, 5.81) | -11.36 (-16.58, -6.2) | Liuzijue |  |  |  |
| -35.93 (-52.3, -19.58) | -42.98 (-56.89, -29.05) | -31.61 (-46.46, -16.75) | Taichi |  |  |
| 10.35 (-23.43, 43.85) | 3.27 (-29.36, 35.66) | 14.62 (-18.4, 47.47) | 46.26 (10.75, 81.4) | Wuqinxi |  |
|  B5. SF-36PCS League Table |  |
| Baduanjin |  |  |  |  |  |
| 2.18 (-3.09, 7.47) | Control |  |  |  |  |
| -2.32 (-7.92, 3.28) | -4.5 (-6.36, -2.65) | Liuzijue |  |  |  |
| -6.78 (-12.07, -1.44) | -8.95 (-9.59, -8.32) | -4.45 (-6.41, -2.49) | Taichi |  |  |

# Appendix F-SUCRA Ranking

|  |
| --- |
| SUCRA Ranking |
| SLSC | TUGT |
| Tai Chi | 71.7% | Liuzijue | 96.6% |
| Wuqinxi | 58.7% | Yijinjing | 63.1% |
| Baduanjin | 58.3% | Baduanjin | 60.5% |
| Yijinjing | 42% | Wuqinxi | 54.6% |
| Control | 19.3% | Control | 13.1% |
| - | - | Tai Chi | 12.2% |
| BBS | 6WMT |
| Yijinjing | 84.5% | Tai Chi | 99.8% |
| Baduanjin | 76.9% | Liuzijue | 65.1% |
| Liuzijue | 72.2% | Baduanjin | 46.8% |
| Wuqinxi | 45.5% | Wuqinxi | 22.3% |
| Tai Chi | 20.1% | Control | 15.7% |
| Control | 0.9% | - | - |
| SF-36 PCS |  |  |
| Tai Chi | 99.7% |  |  |
| Liuzijue | 59.7% |  |  |
| Baduanjin | 33.4% |  |  |
| Control | 6.9% |  |  |

# Appendix G-Funnel plot on publication bias



Appendix G-Funnel plot on publication bias. (a) SLSC (b) TUGT (c) BBS (d) 6MWT (e) SF-36PCS.

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