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| Supplementary Table 1. Characteristics of included studies | | | | | | | | | |
| **Study** | **Groups** | **Participants** | | | **Intervention** | | | | **Notes** |
| n | age  mean ± SD | sex | weeks | sess.  min | freq.  d/wk | intensity |
| Aldred  1995 [10](#_ENREF_10) | walk  control | 11  13 | 49.6 ± 4.7  49.1 ± 4.7 | f  f | 12 | 33 | 5.6 | 74% HRmax | The session duration increased from a target of 60 minutes in the first week to 180 minutes during weeks 11 and 12. |
| Anderson  2006 [11](#_ENREF_11) | walk  control | 10  9 | 38.1 ± 9.3 | f  f | 8 | 30 | 5 | 74% HRmax | The study design included (1) walking, (2) walking + electrical muscle stimulation and (3) control. 1 and 2 are included in the review. |
| Asikainen  2002 [9](#_ENREF_9) | walk 1  walk 2  walk 3  walk 4  control | 20  21  16  21  38 | 57.0 ± 3.8  55.0 ± 3.7  54.0 ± 3.5  55.0 ± 4.2  56.0 ± 3.8 | f  f  f  f  f | 24  24  24  24 | 54  65  38  46 | 5  5  5  5 | 55% VO2max  45% VO2max  55% VO2max  45% VO2max | Weekly walking energy expenditure was set: walk 1 = 1500 kcal, walk 2 = 1500 kcal, walk 3 = 1000 kcal, walk 4 1000 kcal. |
| Asikainen  2002 [12](#_ENREF_12) | walk 1  walk 2  control | 44  43  43 | 57.8 ± 4.4  57.6 ± 4.2  56.5 ± 4.2 | f  f  f | 15  15 | 48  25 | 5  5 | 65% VO2max  65% VO2max | Walk 1 had one daily session, walk 2 had two daily sessions of equal duration. Daily walking energy expenditure was set at 300 kcal for both groups. |
| Asikainen  2003 [60](#_ENREF_60) |  |  |  |  |  |  |  |  | Includes the studies Asikainen 2002a and 2002b with different outcomes. |
| Baker  2008 [13](#_ENREF_13) | walk  control | 39  40 | 47.3 ± 9.3  51.2 ±7.9 | f 31  f 32 | 12 | n/a | n/a | ”brisk” | Pedometer-based intervention. Goal to increase daily steps by 3000 on at least 5 days/week. |
| Bell  2010 [14](#_ENREF_14) | walk  control | 43  45 | m:49 ± 11  f: 50 ± 9 | mf  mf | 24 | n/a | 7 | ”self-paced” | Pedometer-based intervention. Goal to increase daily steps up to 10,000 steps during the last 8 weeks of intervention. |
| Braith  1994 [15](#_ENREF_15) | walk 1  walk 2  control | 19  14  11 | 66.0 ± 5.0  65.0 ± 4.0  66.0 ± 5.0 | mf  mf  mf | 26  26 | 45  35 | 3  3 | 70% HRR  80-85% HRR | Both walking groups progressed to 70% HRR by week 8, where after walk 2 increased to 80-85% HRR. |
| Brandon  2006 [16](#_ENREF_16) | walk 1  walk 2  contr. 1  contr. 2 | 15  13  12  12 | 34.0 ± 7.2  40.5 ± 7.1  36.0 ± 8.4  42.0 ± 9.7 | f  f  f  f | 18  18 | n/a  n/a | 3  3 | “brisk”  “brisk” | Walk 1 and control 1 were afro-americans, walk 2 and control 2 were whites.  Instruction to walk 3 miles per session as briskly as possible with a goal of 3.5 mph pace. |
| Butcher  2008 [17](#_ENREF_17) | walk  control | 17  17 | 44.9 ± 10.0  46.1 ± 12.2 | f 8  f 8 | 8 | n/a | 3 | “self-paced” | Pedometer-based intervention. 10,000 steps 3 times a week on treadmill. |
| Duncan  1991 [18](#_ENREF_18) | walk 1  walk 2  walk 3  control | 18  12  16  13 | 20-40 (all) | f  f  f  f | 24  24  24 | 40  45  36 | 5  5  5 | 56% HRmax  67% HRmax  86% HRmax | Walking distance was gradually increased until reaching the maintenance distance of 4,8 km by the 7th week. Walking intensities were gradually increased to target intensities by the 14th week of training. |
| Foulds  2014 [41](#_ENREF_41) | walk 1  walk 2  walk 3  walk 4  control | 10  10  18  10  10 | 46 ± 10.8  39 ± 14.8  46 ± 10.4  42 ± 13.2  37 ± 15.4 | f 4  f 6  f 13  f 8  f 6 | 13  13  13  13 | 10  10  30  60 | 1  3  3  3 | “brisk”  “brisk”  “brisk”  “brisk” | Community-based interventions led by a qualified exercise professional. |
| Gaba  2016 [42](#_ENREF_42) | walk  control | 58  46 | 55.9 ± 3.9  57.9 ± 5.7 | f  f | 10 | 30-35 | 5 | “brisk” | Intervention was supervised self-regulated brisk walking to or from work. |
| Hamdorf  1992 [43](#_ENREF_43) | walk  control | 30  36 | 64.1 ± 2.4  64.1 ± 2.6 | f  f | 26 | 45 | 2 | 115.5 ± 6.7 HR | The duration of the walking program increased progressively from 16 minutes by to 1st week to 45 minutes by the 19th week. |
| Herzig  2014 [44](#_ENREF_44) | walk  control | 33  35 | 58 ± 9.9  59.5 ± 10.8 | f 24  f 26 | 12 | 40-45 | 3 | 3-4 km/h | Walking time was increased gradually to 40-45 minutes by the 6th week of intervention. |
| Hinkleman  1993 [19](#_ENREF_19) | walk  control | 18  18 | 36.0 ± 6.8  32.4 ± 6.4 | f  f | 15 | 45 | 5 | 62% VO2max | Walking session were conducted and monitored by a supervisor. |
| Hong  2014 [45](#_ENREF_45) | walk  control | 10  10 | 30-40  30-40 | f  f | 12 | 50-70 | 3 | 50-60% VO2max | Walking energy expenditure was set at 400 kcal per session. |
| Jasinski  2015 [46](#_ENREF_46) | walk  control | 8  8 | 58 ± 1.6  59 ± 3.4 | f  f | 8 | 40 | 2 | 4.8 MET | Nordic walking. The study design included also a water aerobics training group. |
| Jette  1988 [20](#_ENREF_20) | walk  control | 13  13 | 35-53  35-53 | f 6  f 6 | 12 | 30 | 3 | 60% VO2max | Intervention was treadmill walking. |
| Kang  2014 [47](#_ENREF_47) | walk  control | 32  48 | 60 ± 7.2  63 ± 7.1 | f  f | 12 | 90 | 3 | 12-15 RPE | Intervention was “trekking walking”: consists of downhill walking pattern. |
| Kearney  2014 [48](#_ENREF_48) | walk  control | 52  25 | 45 ± 6.2  45 ± 7.4 | f 41  f 17 | 24 | 30 | 5 | ”brisk” | Instruction was to include three 10-minutes bouts of brisk walking into the daily routine on 5 days per week. |
| Moreau  2001 [21](#_ENREF_21) | walk  control | 15  9 | 53.0 ± 7.8  55.0 ±3.0 | f  f | 24 | 30 | 7 | ”self-paced” | Pedometer-based intervention with increasing daily walking distance up to 3 km/day by the 3rd week. |
| Morgan  2010 [22](#_ENREF_22) | walk  control | 14  15 | 57.4 ± 6.5  62.1 ± 4.0 | f 11  f 11 | 15 | n/a | 7 | “self-paced” | Pedometer-base intervention. Goal to increase walking to 10,000 steps per day over the baseline steps by the 3rd week of intervention. |
| Murphy  1998 [23](#_ENREF_23) | walk 1  walk 2  control | 12  12  10 | 44.8 ± 8.4  48.0 ± 5.5  47.3 ± 4.1 | f  f  f | 10  10 | 3\*10  30 | 5  5 | 73% HRmax  75% HRmax | Comparison between long (30 min) and short bouts (3\*10 min) of walking. |
| Murphy  2006 [24](#_ENREF_24) | walk  control | 21  12 | 41.4 ± 7.5  40.8 ± 10.0 | mf  mf | 8 | 45 | 2 | 63% HRmax | Walk time increased progressively from 25 minutes to 45 minutes per session by the 3rd week. |
| Murtagh  2005 [25](#_ENREF_25) | walk 1  walk 2  control | 16  9  7 | 45.7 ± 9.4 (all) | f 12  f 1  f 11 | 12  12 | 20  2\*10 | 3  3 | 73% HRmax  72% HRmax | Treadmill walking, comparison between long (20 minutes) and accumulated short bouts (2\*10 minutes) of walking. |
| Pospieszna  2017 [49](#_ENREF_49) | walk  control | 20  19 | 62 ± 3.8  62 ± 1.1 | f  f | 12 | 50 | 3 | 90% ventilatory threshold | Intervention was supervised Nordic walking. |
| Probart  1991 [26](#_ENREF_26) | walk  control | 10  6 | 72.0 ± 1.9  72.0 ± 1.7 | f  f | 26 | 20 | 3 | 70% HRmax | Intervention was supervised treadmill walking. |
| Ready  1995 [27](#_ENREF_27) | walk  control | 15  10 | 60.9 ± 4.6 (all) | f  f | 24 | 54 ± 8 | 4.9 | 54% HRR | Walking sessions were supervised once a week. |
| Ready  1996 [28](#_ENREF_28) | walk 1  walk 2  control | 19  17  20 | 61.3 ± 5.8 (all) | f  f  f | 24  24 | 60  60 | 3  5 | 60% VO2max | Walking sessions were supervised once a week. |
| Santiago  1995 [29](#_ENREF_29) | walk  control | 16  11 | 30.1 ± 5.3  31.5 ± 6.1 | f  f | 40 | n/a | 4 | 72% HRmax | Uphill walking on treadmill. Subjects walked 4.8 km each time with a prescribed duration. |
| Serwe  2011 [30](#_ENREF_30) | walk 1  walk 2  control | 20  20  20 | 38.2 ± 7.3  37.1 ± 7.2  36.3 ± 8.1 | f  f  f | 8  8 | 30  3\*10 | 5 | 60-70% HRR | Pedometer-based intervention. Comparison between long (30 min) and accumulated short bouts (3\*10 min) of walking. |
| Stensel  1993 [31](#_ENREF_31) | walk  control | 42  23 | 50.3 ± 5.2  51.6 ± 4.8 | m  m | 52 | 28 | 7 | 68% HRmax | Walking time was progressively increased up to 40-45 minutes by the 6th months. The achieved average walking time was 28 minutes per day. |
| Stensel  1994 [32](#_ENREF_32) |  |  |  |  |  |  |  |  | Same study as Stensel 1993. |
| Tully  2005 [33](#_ENREF_33) | walk  control | 21  10 | 55.5 ± 4.0  57.8 ± 4.6 | f 12  f 6 | 12 | 30 | 5 | “brisk” | Pedometer-based intervention. Subjects had a choice of either 30 min continuous or shorter bouts of no less than 10 minutes. |
| Tully  2007 [34](#_ENREF_34) | walk 1  walk 2  control | 44  42  20 | 47.8 ± 6.0  46.4 ± 4.8  49.1 ± 6.3 | f 31  f 32 | 12  12 | 30  50 | 3  5 | “brisk”  “brisk” | Pedometer-based intervention. Participants could choose to walk in a single bout or in multiple bouts of at least 10 minutes duration. |
| Woolf-May  1999 [35](#_ENREF_35) | walk 1  walk 2  walk 3  control | 19  10  14  13 | 50.1 ± 6.3  57.7 ± 6.1  54.3 ± 7.4  54.7 ± 7.0 | f 13  f 7  f 9  f 8 | 18  18  18 | 34.8  14.5  9.9 | 4.4  10.6  15.4 | 73.4% HRmax  74.8% HRmax  74.6% HRmax | All walking groups performed the same total amount of walking for 18 weeks with bouts of differing durations and frequencies. |
| Woolf-May  2011 [36](#_ENREF_36) | walk  control | 29  19 | 54.9 ± 8.0  52.4 ± 8.0 | m  m | 24 | 25.1 | 7.2 | 65% HRmax | Walkers were asked to walk for 30 minutes in bouts of no < 10 minutes on at least 5 days a week. |
| Zhang  2014 [50](#_ENREF_50) | walk  control | 54  57 | 48 ± 4.5  47 ± 5.2 | f  f | 12 | 30 | 3 | 60-70 sec/100 m | Walkers were instructed to walk three times a week or more with sessions lasting at least 30 minutes. |

Abbreviations: sess. = sessions, freq. = frequency, d = day, wk = week, f = female, m = male, HRmax = maximum heart rate, HRR = heart rate reserve, RPE = rating of perceived exertion, VO2max = maximal oxygen consumption, sec = seconds