| **Author, Year(Study Name)** | **Arm** | **Weight Loss Intervention (all arms)** | **Maintenance Intervention** | **Adherence** | **Control** |
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| Cussler, 2008233(HW4L) | IG1 | Intervention: Weekly group meetings over 4 months with the intervention team in 6 groups of about 26 participants/group for 150 min/session. Participants were encouraged to produce small but lasting changes in eating and physical activity patterns, leading to a moderate daily energy deficit (-1260 to 2090 kJ/d (300–500 kcal/d)). A weight loss of ~0.5 kg a week was targeted and individualized goals for energy intake (EI) and expenditure were provided to all participants. Weight was monitored weekly. The intervention comprised four components of behavioral change: physical activity, nutrition and healthy eating, social support, and the mind/body connection.Required WL to enter MN: None | Maintenance portion included two 2-hour training sessions on how to navigate & track data for the website, which hosted communication tools, progress monitoring tools (body weight, PA, dietary intake, "mind-body" logs), curriculum materials, dietary and PA information, links to other websites of interest. Participants entered their data in four Internet logs: weight, physical activity, dietary intake, and "your week" (open-ended comments on and reactions to one's weight maintenance experience). Participants organized and ran support groups & these groups were encouraged to meet once per week. | 71.2-100% of participant logged into different parts of website; 32.7% contacted each other at least once a week; articles were accessed by 78.8% of participants at least once a week | No intervention: No further contact with study staff except for testing after the 4-month weight loss program, but were permitted to continue to meet with their group and practice the learned principles. |
| Pekkarinen, 2015282 | IG1 | Intervention: During the first week patients ate normally and kept a diary. Patients used VLCDD during study weeks 2-11, followed by a 2 week refeeding phase. Patients had weekly sessions during 17 week weight loss phase based on LEARN (1.5 hours), which included goal-setting, portion education, and relapse prevention. Participants were advised to use a pedometer. Towards the end, focus was set on the importance of continuous self-monitoring.Required WL to enter MN: None | The 12 month maintenance phase involved 1.5 hour monthly sessions comprising of 1-2 themes (dietary choices/intake, social support, goal-setting, problem-solving, self-confidence, and PA) and including two supervised PA sessions led by physiotherapist. | The 68 subjects who participated in the maintenance phase attended a mean 6.4 (SD 3.3) of the 12 sessions. | No intervention: No intervention during maintenance |
| Perri, 1988284 | IG1 | Intervention: 20-week intervention focused on weight loss consisting of twenty 2-hour weekly group sessions. The weight loss portion of the intervention included counseling focused on self-control for weight loss and goals and supervised exercise sessions to increase physical activity to 80 minutes per week. Required WL to enter MN: None | After the 20 week weight loss phase, the maintenance program consisted of 26 biweekly group counseling sessions with a therapist (length of sessions NR). Counseling sessions consisted of weigh-ins, reviews of self-monitoring data, and therapist-led problem solving of difficulties in maintaining habit changes. In addition, this group received a social influence program and a physical activity maintenance program. The social influence program included monetary group contingencies for program adherence and continued weight loss, active client participation in preparing and delivering lectures on maintaining weight loss, and instructions on how to provide peer support for weight loss through ongoing telephone contacts and peer group meetings. The physical activity maintenance program consisted of a new set of exercise goals for the posttreatment period and supervised exercise sessions during the biweekly treatment sessions. The prescribed dose of physical activity increased from 80 minutes per week (4x20 min sessions) to 180 minutes per week (6x30 min sessions). | Across all 4 intervention groups, participants attended 66.8% of 26 scheduled sessions (M=17.38, SD=6.84); IG3 attended significantly greater number of maintenance sessions than IG2 (21.05 and 14.83, respectively: p<0.05) | No intervention: No intervention during maintenance |
| IG2 | After the 20 week weight loss phase, the maintenance program consisted of 26 biweekly group counseling sessions with a therapist (length of sessions NR). Counseling sessions consisted of weigh-ins, reviews of self-monitoring data, and therapist-led problem solving of difficulties in maintaining habit changes. In addition, this group received a physical activity maintenance program consisting of a new set of exercise goals for the posttreatment period and supervised exercise sessions during the biweekly treatment sessions. The prescribed dose of physical activity increased from 80 minutes per week (4x20 min sessions) to 180 minutes per week (6x30 min sessions). | Across all 4 intervention groups, participants attended 66.8% of 26 scheduled sessions (M=17.38, SD=6.84); IG3 attended significantly greater number of maintenance sessions than IG2 (21.05 and 14.83, respectively: p<0.05) |  |
| IG3 | After the 20 week weight loss phase, the maintenance program consisted of 26 biweekly group counseling sessions with a therapist (length of sessions NR). Counseling sessions consisted of weigh-ins, reviews of self-monitoring data, and therapist-led problem solving of difficulties in maintaining habit changes. In addition, this group received a social influence program including monetary group contingencies for program adherence and continued weight loss, active client participation in preparing and delivering lectures on maintaining weight loss, and instructions on how to provide peer support for weight loss through ongoing telephone contacts and peer group meetings. | Across all 4 intervention groups, participants attended 66.8% of 26 scheduled sessions (M=17.38, SD=6.84); IG3 attended significantly greater number of maintenance sessions than IG2 (21.05 and 14.83, respectively: p<0.05) |  |
| IG4 | After the 20 week weight loss phase, the maintenance program consisted of 26 biweekly group counseling sessions with a therapist (length of sessions NR). Counseling sessions consisted of weigh-ins, reviews of self-monitoring data, and therapist-led problem solving of difficulties in maintaining habit changes. Participants were asked to maintain their physical activity levels at 80 minutes per week. | Across all 4 intervention groups, participants attended 66.8% of 26 scheduled sessions (M=17.38, SD=6.84); IG3 attended significantly greater number of maintenance sessions than IG2 (21.05 and 14.83, respectively: p<0.05) |  |
| Sherwood, 2013294(Keep It Off) | IG1 | Intervention: None. Required WL to enter MN: ≥ 10% WL in past year | Maintenance phase 1: 10 biweekly 20 min phone coaching sessions focusing on developing key behaviors and skills necessary for WLM, including helping participants appreciate the benefits of their achieved weight loss. Subsequently frequency of calls reduced to monthly and bimonthly 15 min. calls. Participants worked through Keep It Off coursebook in the phone coaching calls with a coach and were provided with logbooks where weekly weight was reported for the duration of the study. Participants encouraged to self-monitor energy intake, weight, and to work toward 60-90 mins of PA most days of the week. Maintenance phase 2: 8 monthly and 6 bimonthly calls, weekly reporting of weight, and bimonthly weight graphs and tailored letters beginning at month 8. As calls decreased in frequency, the intervention built on the Relapse Prevention model in which participants submitted weekly weights to their phone coach and received bimonthly tailored feedback reports based on whether they were maintaining, losing or gaining weight. Small incentives provided with brief letters tailored to patient weight status. Participants who gained weight received additional outreach calls to problem solve regarding weight gain reversal strategies. | Core 10 Sessions n (%):10: 176 (85.2%)1-9: 28 (13.4%)0: 3 (1.4%)Monthly Sessions n (%): 8: 162 (77.5%) 4-7: 11 (5.3%) 0: 31 (14.8%)Bimonthly Sessions n (%):>5: 123 (58.8%)1-4: 38 (18.2%)0: 48 (23.0%) | Minimal intervention: 2-session phone course (~20 minutes each) to teach participants about WLM strategies. Participants also received coursebook and logbook. |
| Simpson, 2015296(WILMA) | IG1 | Intervention: NoneRequired WL to enter MN: ≥ 5% WL in past year | Six 1-hour individually tailored motivational interviewing sessions during the first 3 months followed by 9 20-min telephone sessions during the remaining 9 months. Motivational interviewing content included topics comprised of self-monitoring, goal-setting and implementation intentions, habits, emotional eating and coping with relapse, diet, PA, barriers to maintenance, social support, and self-efficacy. Diet and physical activity were discussed in the MI sessions in line with current government guidance. Participants were encouraged to reflect on their values, goals and current behavior and to develop their own goals and techniques for implementing and maintaining behaviors. Participants in the intervention groups were encouraged by researchers at their baseline assessments to self-monitor by weighing themselves weekly and MIPs encouraged the concept of self-monitoring generally. Participants were able to record all self-monitoring activity, including diet, physical activity, other markers of successful maintenance (e.g. clothes fitting better), goals set at sessions and implementation intentions, in a diary provided by the study team (paper-based and brief online version); however, completion was optional. Diaries provided to participants were intended for their personal use only and were not collected by the study team for outcome assessment. However, participants were asked to record their weekly weight and send this information to the study team via the study website or by text, e-mail or telephone. MIPs kept a written record of each face-to-face and telephone session (including goal-setting and implementation intentions) using the appropriate case report form (CRF) and this information was collected by the study team. MIPs also completed a brief written summary of the session for the participant to take away. | 83.3% (95% CI [70.0 - 92.0]) attended at least 5 of 6 face to face sessions. 80.4% received at least 1 phone call. 19.6% received all 9 phone calls. | Usual care: Usual care plus pamphlet advising on healthy eating and lifestyle. |
| IG2 | Two 1-hour individually tailored motivational interviewing sessions spaced two weeks apart followed by two 20-min telephone sessions at 6 and 12 months. Motivational interviewing content included topics comprised of self-monitoring, goal-setting and implementation intentions, habits, emotional eating and coping with relapse, diet, PA, barriers to maintenance, social support, and self-efficacy. Diet and physical activity were discussed in the MI sessions in line with current government guidance. Participants were encouraged to reflect on their values, goals and current behavior and to develop their own goals and techniques for implementing and maintaining behaviors. Participants in the intervention groups were encouraged by researchers at their baseline assessments to self-monitor by weighing themselves weekly and MIPs encouraged the concept of self-monitoring generally. Participants were able to record all self-monitoring activity, including diet, physical activity, other markers of successful maintenance (e.g. clothes fitting better), goals set at sessions and implementation intentions, in a diary provided by the study team (paper-based and brief online version); however, completion was optional. Diaries provided to participants were intended for their personal use only and were not collected by the study team for outcome assessment. However, participants were asked to record their weekly weight and send this information to the study team via the study website or by text, e-mail or telephone. MIPs kept a written record of each face-to-face and telephone session (including goal-setting and implementation intentions) using the appropriate case report form (CRF) and this information was collected by the study team. MIPs also completed a brief written summary of the session for the participant to take away. | 90.7% (95% CI [79.0 - 97.0]) attended both face to face sessions. 72.1% received at least 1 phone call.55.8% received both phone calls. |  |
| Svetkey, 2008303(WLM) | IG1 | Intervention: 20 weekly group sessions (1.5 to 2 hours) over approximately 6 months. Intervention goals were for participants to reach 180 minutes per week of moderate physical activity (typically walking); reduce caloric intake; adopt the Dietary Approaches to Stop Hypertension dietary pattern; and lose approximately 1 to 2 lb per week. Participants were taught to keep food and physical activity self-monitoring records and to calculate caloric intake.Required WL to enter MN:≥ 4 kg during WL phase | Maintenance portion included monthly person-to-person phone contact guidance and support for 5 -15 minutes each month; every-4th month, a 45-60 individual face-to-face contact. Each contact began with self-reported or measured weight (for face-to-face contacts), review of progress, number of days a food diary was kept, frequency of weighing, average minutes of exercise, progress on additional goals and action plans, and problem-solving. Contacts provided opportunities to discuss barriers to weight loss maintenance and plans to overcome those barriers. Intervention reinforced key theoretical constructs (motivation, support, problem solving, relapse prevention). Encouraged to continue adherence to recommended dietary pattern and increase moderate physical activity to at least 225 min per week. Phase 3: At 30 months, 40% (n=98) of participants were re-randomized to ongoing contact (4 weekly group sessions followed by monthly phone contacts, and general content as in Phase 2). Of the remaining IG1 participants, 40% received no additional contact during this phase. The remaining participants 19% (n=47) were not re-randomized, and did not receive any further contact. | Phase 2: 91%Phase 3: median contact completion 77% | Minimal intervention: Received printed life-style guidelines with diet and physical activity recommendations at randomization, and met briefly with a study interventionist after 12-month data collection visit. No further instructions or visits for remainder of study. |
| IG2 | Maintenance portion included unlimited access to website designed to support WL maintenance. Encouraged to log in at least 1x/week to interactive website and required to enter current weight and encouraged to use the web site for self-monitoring of physical activity and caloric intake. Web site's interactive features allowed participants to set personal goals and action plans and to graph personal data over time. Web-modules addressed problem solving and motivation, and a bulletin board facilitated social support but not in-person counseling. Intervention reinforced key theoretical constructs (motivation, support, problem solving, relapse prevention). If participants missed a scheduled contact they were sent email reminders followed by automated and personal calls if required. Encouraged to continue adherence to recommended dietary pattern and increase moderate physical activity to at least 225 min per week. | Website contact (overall): 77% Consistent use (login and weight entry 26 of the 28 months): 60.9%Some use (login and weight entry 14 to 25 of 28 months): 17.5 %Minimal use (all others): 21.6%Log-ins: Median #: 107 (86 with content in addition to weight entry) |  |
| Voils, 2017309 | IG1 | Intervention: Biweekly group meetings for 16 weeks (8 sessions total) focused on calorie and fat restriction. It included education and strategies including goal setting and self-monitoring of dietary intake and physical activity.Required WL to enter MN: ≥4 kg during WL phase | The (group-based) 42-week intervention, followed by 14 weeks of no contact, included 3 group visits and 8 individual telephone calls. During weeks 2-12, delivery mode alternated between in-person group visits and individual telephone calls on a biweekly basis. Group sessions occurred at weeks 2, 6, and 10 and focused on introducing participants to the definition of weight maintenance, customized daily calorie goals (updated to reflect weight loss), self-monitoring of weight. A 3-lb threshold was suggested for monitoring relapse, and physical activity recommendations were introduced. Participants were engaged in discussion about specific social support strategies, including positive reinforcement, participant, and discussion/sharing; participants were encouraged to bring a support person with themselves to the second meeting. Participants received a handout with suggested support behaviors in an attempt to shift social support from the group and the interventionist to participants' social networks. The last meeting focused on relapse prevention, in which participants encouraged to generate strategies to deal with potential difficult situations and prevent lapse. Individual phone sessions occurred at weeks 4, 8, 12, 16, 20, 24, 32, and 40 and had a standardized structure focusing on satisfaction with outcomes, relapse-prevention planning, self-monitoring, and social support. Participants reviewed "before" and "after" photos and were asked to discuss outcomes of weight loss as a source of motivation. Participants also specified frequency of weighing, and identified a primary social support person to share their weight maintenance plans with. The frequency of group sessions and individual phone sessions decreased over time from biweekly, to monthly, to bimonthly. | Participants attended mean (SD) 2.07 (1.06) of 3 group sessions and participated in mean (SD) 7.34 (1.43) of 8 phone calls | Usual care: Participants received no further contact from study staff except for assessment visits, but could enroll in both MOVE! (orientation session + 10 weekly drop-in group sessions covering nutrition, PA, and weight management behaviors), TeleMOVE! (interactive voice responses system that patients are encouraged to call ≥82 of 90 days), a telephone lifestyle coaching program, and may request one-time referral to registered dietitian. Participants with type 2 diabetes could attend a 1-time diabetes education class addressing nutrition among other topics. |
| Wing, 2006313(STOP) | IG1 | Intervention: NoneRequired WL to enter MN: ≥ 10% WL in past 2 years | Participants given a scale and introduced to a weight-monitoring system based on color zones and were asked to submit their weight weekly through an automated phone system. Those who reported maintaining their weight, defined as gain of <1.4 kg over their starting weight, were in the green zone and were provided immediate reinforcement w/positive automated messages and also received small green gifts monthly to foster development of self-reinforcement skills. Participants with weight gains of 1.4-2.2 kg were in the yellow zone and were instructed to use problem-solving skills to bring their weight back to the green zone. Participants with weight gain of ≥ 2.3 kg were in the red zone and were encouraged to restart active weight-loss efforts and to use a toolkit provided at the start of the program that included their own weight-loss success story, self-monitoring diaries, book providing info on calories and fat, pedometer, and cans of meal-replacement product. Red zone participants also offered counseling by phone. All participants were encouraged to practice eating and exercise behaviors and attended weekly meetings over the first month, followed by monthly meetings over the remaining 18 months. | 78.7% of sessions attended from baseline to 6 months, 53.5% from 7-12 months, and 41.5% from 13-18 months | Minimal intervention: Received a quarterly newsletter w/info about diet, exercise, and weight control. |
| IG2 | Participants provided with a laptop and an Internet connection, as well as technical support. Participants attended an introductory session designed to teach them how to use the laptop and had access to a STOP Regain message board and website where treatment lessons and weekly tips were posted. Participants also given a scale and introduced to a weight-monitoring system based on color zones and were asked to submit their weight weekly through a web-based form. Those who reported maintaining their weight, defined as gain of <1.4 kg over their starting weight, were in the green zone and were provided immediate reinforcement w/positive automated messages and also received small green gifts monthly to foster development of self-reinforcement skills. Participants with weight gains of 1.4-2.2 kg were in the yellow zone and were instructed to use problem-solving skills to bring their weight back to the green zone. Participants with weight gain of ≥ 2.3 kg were in the red zone and were encouraged to restart active weight-loss efforts and to use a toolkit provided at the start of the program that included their own weight-loss success story, self-monitoring diaries, book providing info on calories and fat, pedometer, and cans of meal-replacement product. Red zone participants also offered counseling by email. All participants were encouraged to practice eating and exercise behaviors and attended weekly group chat-room meetings over the first month, followed by monthly chat-room meetings over the remaining 18 months. | 65.7% of sessions attended from baseline to 6 months, 41.2% from 7-12 months, and 34.2% from 13-18 months |  |
| Young, 2017317 | IG1 | Intervention: Provided with the SHED-IT weight loss program, which was self-administered and included DVD, logbooks, and motivational messaging.Required WL to enter MN:≥ 4kg during WL phase | SHED-IT WLM Program: Participants received a weight loss handbook, weight loss logbook, weekly emails (including video messages), biweekly text messages, resistance training handbook, and a digiwalker SW200 pedometer and a Gymstick (a portable device with elastic resistance bands). The program placed specific emphasis on key behaviors associated with successful weight loss maintenance, including increasing moderate-to-vigorous PA to at least 300 min/week; limiting intake of energy-dense, nutrient poor discretionary foods; eating breakfast regularly; eating more fruit and vegetables; and watching less than 2 hr of TV/day. Participants were advised to continue self-monitoring their diet and activity at least 2 days/week. Participants were not encouraged to lose weight, but were advised to continue weekly weigh-ins and to revert to weight loss strategies if they regained ≥2.5 kg during WLM phase. Intervention was "gender tailored." | Read handbook at least once: 98%Read most/all emails: 73%Watched most/all videos: 50% | No intervention: Participants in "self-help" group did not receive any of the WLM materials. |

Abbreviations: IG = intervention group; HW4L = Healthy Weight for Life; kg = kilogram; M = mean; MI = motivational interviewing; MIP = motivational interviewing practitioner; min = minute(s); MN = maintenance; NR = not reported; PA = physical activity; SD = standard deviation; STOP = Study to Prevent Regain; WILMA = Weight Loss Maintenance in Adults; WL = weight loss; WLM = Weight Loss Maintenance