

WEIGHT WATCHERS INTERNATIONAL, INC.

SCIENTIFIC COMPENDIUM

Last Updated: January 2010

Weight Watchers International Original Research

- **Parent-Based Program Demonstrates Positive Impact in Treating Excess Weight in Children**
S Rost, K Miller-Kovach, T Angelopolous, J Rippe. *Obesity* 2009; 17(Suppl 2): S180.

59-week data on 89 children was provided from a pilot program that offers a family based, comprehensive weight management program for overweight children. The researchers found that 10 children had a BMI-for-Age <85th% tile. Of the 79 children with a BMI-for-Age ≥85th% tile, 56 children decreased their BMI z-score (p< 0.001), 1 stayed the same and 22 increased. The findings suggest that the parent-focused pilot program appears to have a positive affect on children's weight.

- **Early Results of a Commercial Weight-Loss Service in China**
K Miller-Kovach, S Jin. *Obesity* 2009; 17(Suppl 2): S128.

After 33 weeks of operation of a commercial weight-loss program in China, 553 women and 35 men have participated. Based on an internal segmentation model, strict followers lost 0.73kg per week on average and moderate and loose followers lost 0.47kg and 0.30kg per week respectively. More than 85% of the participants state that they are satisfied or highly satisfied with the service. These findings suggest that a structured, lifestyle modification program that includes weekly group meetings that has been shown to be effective in the Western world can also be successfully employed in a traditional Eastern culture.

- **Relations of Hedonic Hunger and Binge Eating Among Treatment-Seeking Overweight and Obese Adults**
ABBoeka, KL Lokken, K Miller-Kovach, GE Cronan, PM O'Neil. *Obesity* 2009; 17(Suppl 2): S129.

Associations of hedonic hunger to binge eating and BMI were examined among two samples of overweight and obese adults entering nonsurgical (Weight Watchers®) and surgical weight loss programs. Participants completed the power of food scale (PFS) questionnaire to assess hedonic hunger and the Questionnaire on Eating and Weight Patterns-Revised (QEWP-R) and the binge eating scale (BES) (surgery applicants only) to assess binge eating. The authors concluded that among overweight and obese treatment-seeking adults, tendencies to binge eat are related to a

heightened sense of the food environment. Hedonic hunger increases with greater severity of binge eating, independent of BMI.

- **Computer Modelling the Health and Economic Outcomes of the Weight Watchers GP Referral Scheme**

M Brown and K McPherson. *Obesity Facts* 2009; 2(Suppl 2):115.

A computer modeling methodology was used to predict future health and economic impacts of a 12 week Weight Watchers intervention. The findings suggest that a large scale application of a modest weight-loss intervention may translate into considerable savings to the Government and improvements in health outcomes for individuals.

- **An Electronic Linkage System for Health Behavior Counseling. Effect on Delivery of the 5A's**

AH Krist, SH Woolf, CO Frazier, RE Johnson, SF Rothemich, DB Wilson, KJ Devers, W Kerns. *Am J Prev Med* 2008; 35(Suppl 5):S350-S358.

At 9 primary care practices, an electronic linkage system (eLinkS) was instituted to promote health behavior counseling. Patients were offered 9 months of free counseling for weight loss, smoking cessation, and problem drinking at a choice of venues: group counseling (Weight Watchers®), telephone counseling, computer care, and usual care. Of the patients visiting the practices, 10% were referred for intensive counseling from a community program, most often for weight loss. The intervention increased the rate at which patients were referred for intensive behavioral counseling compared to current practice norms, suggesting this system could have substantial public health benefits.

- **Weight Change of Participants in the Weight Watchers GP Referral Scheme.**
J Poulter and P Hunt. *International Journal of Obesity* 2008; 32 (Suppl 1): S233.

1,058 people from 21 regions in England were referred by their physicians to attend Weight Watchers meetings for a 12 week course. More than half (55%) of referred patients completed the entire course. After 12 weeks, the average weight loss was 5.2 kg. 54% of the patients lost 5% or more of their initial body weight and 11% lost 10% or more. Greater weight loss was seen in patients who were regularly attending meetings.

- **Weight-Loss Maintenance 1, 2 and 5 Years after Successful Completion of a Weight-Loss Programme**

MR Lowe, TVE Kral, K Miller Kovach. *British Journal of Nutrition* 2007; 28:1-6.

Weight-loss maintenance after successful completion of a commercial weight-loss program was assessed in 699 lifetime members of the Weight Watchers program. One, two and five years after successful completion of the program, 79.8%, 71.0%

and 50% of participants maintained at least 5% of their weight loss. These findings provide further evidence that maintenance of weight loss for those who successfully lose weight is more beneficial than data from clinical populations suggest.

- **Using Online Tools in Conjunction with a Comprehensive, Group-Based Weight Loss Plan Enhances Outcomes**

V Nguyen, A Summer, J Brosnahan, L Zukley, J Lowndes, T Angelopoulos, J Rippe. *Obesity* 2007; 15 (Suppl 9): A221.

Eighty-nine adults with home-based computer access and skills were randomized to two groups. One group (n = 65) attended weekly meetings and followed the Weight Watchers program and the second group (n = 24) did the same in addition to using web-based tools (e Tools). After 24 weeks the group using eTools had significantly greater changes in weight (-10.09 ± 10.32 lbs vs -15.23 ± 10.56 , $p < 0.05$) and BMI (1.65 ± 1.67 vs -2.60 ± 1.72 , $p < 0.05$) compared to the group only following the Weight Watchers program. The number of days using the online tools ($r = -0.425$, $p = 0.039$) was related to change in weight. These findings suggest that the addition of on-line tools to a comprehensive, group-based, weight-loss plan increases weight-loss success.

- **Evaluation of a Popular, Online, Weight-Loss Product**

L Zukley, V Nguyen, A Summers, J Brosnahan, J Lowndes, T Angelopoulos, J Rippe. *Obesity* 2007; 15 (Suppl 9): A221.

Thirty one participants with home-based computer access and skills were instructed to use Weight Watchers Online for 24 weeks to evaluate the effectiveness of an online weight-loss subscription product. Significant improvements were seen in weight (180.70 ± 26.55 vs 170.15 lbs), BMI (30.60 ± 2.30 vs 28.90 ± 2.48), percent body fat (44.74 ± 4.94 vs 41.16 ± 6.84) and fat mass (80.77 ± 15.14 vs 70.25 ± 16.62 lbs, all $p < 6.84$). In addition, a significant relationship was observed between the total number of online interactions and change in weight ($r = -0.412$, $p = 0.021$) and in regard to the number of days with at least one online interaction ($r = -0.410$, $p = 0.022$). These findings suggest that an online, subscription-based, weight program can produce significant results and the more often the online program is used, the greater the weight loss.

- **Motivational Effects of 12-Week Moderately Restrictive Diets With or Without Special Attention to the Glycemic Index of Foods**

F Bellisle, AM Dalix, MA De Assis, E Kupek, U Gerwig, G Slama, JM Oppert. *Br J Nutr* 2007; Apr;97(4): 790-8.

Ninety-six women enrolled in a 12 week comprehensive weight-loss program (Weight Watchers) were randomized so that one group (n=45) followed the regular Weight Watchers program while the second group (n=51) followed a modified program encouraging low GI foods. No significant difference were seen between groups with regards to attrition, weight loss, decreases in waist and hip

circumferences and other biochemical measures. The low GI group did consistently rate feelings of hunger and desire to eat lower than the traditional program with group differences being especially large in the afternoon. These subjective benefits may be helpful in adherence to a weight-loss program over the long-term and require further investigation.

- **Evaluation of Weight-loss Diets on Glycemic Index, Glycemic Load, Body Mass Index and Insulin Resistance**

V Nguyen, L Zukley, J Brosnahan, A Summers, J Lowndes, T J Angelopoulos, JM Rippe. *The FASEB Journal* 2007; 21(5): A694.

Eighty-one overweight adults enrolled in a comprehensive weight-loss program (Weight Watchers) were randomized to two different diets: one focused on foods with a low energy density (ED) and another focused on portion control (PC). Both groups showed comparable significant decreases in caloric intake along with significant improvements in body mass index and waist circumference. While GI was lower in the ED group (40.15 ± 8.64 ; $p \leq 0.05$) than the PC (47.26 ± 7.72), both were low (i.e., $GI < 55$). These findings suggest that dietary interventions not based on GI or GL can improve glucose handling and result in reliable weight loss.

- **Parents as Change-agents: Pilot Program Shows Positive Impact on Childhood Overweight**

C Horning, K Miller-Kovach, R Wilde, J Hartman. *The FASEB Journal* 2007; 21(5): A301.

46-week data on 52 children was provided from a pilot program that offers a family based, comprehensive weight management program for overweight children. The researchers found that 19 children had a BMI-for-Age $< 85^{\text{th}}$ tile. Of the 33 children with a BMI-for-Age $\geq 85^{\text{th}}$ tile, twenty-three children decreased their BMI z-score ($p=0.003$), 2 stayed the same and 8 increased. The findings suggest that the parent-focused pilot program appears to have a positive affect on children's weight.

- **Effectiveness of a Novel Weight Loss Approach That Combines Brief Standard Treatment and A Commercial Program**

AM Pinto, M Kearns, RR Wing. *Annals of Behavioral Medicine* 2007; 33(Suppl): S140.

Sixty-six obese subjects were randomized to one of three weight-loss interventions: 24 weeks of Weight Watchers (WW) only, 24 weeks of a combined treatment of standard behavioral treatment (SBT) followed by 16 weeks of WW (WW combined), or 8 weeks of SBT only. Mean weight losses at 24 weeks did not differ significantly by treatment group.

- **Evaluation of Referral to Weight Watchers**

J Poulter and P Hunt. *International Journal of Obesity* 2007; 31 (Suppl 1): S110.

In 2004 and 2005, 155 people from regions in England were referred by their physicians to attend Weight Watchers meetings for 10-13 weeks. Most of the

patients (87.5%) that were referred to Weight Watchers attended meetings. After 12 weeks, the average weight loss was 10 pounds and more than one-third of the patients lost 5% or more of their initial body weight (considered to be a medically significant achievement). Greater weight loss was seen in patients who regularly attended meetings.

- **Effect of an Ad Lib Low Energy Density Diet vs. a Low Glycemic Index Diet on Cardiovascular Risk Factors as Part of a Comprehensive Weight-loss Program**

V Nguyen, L Zukley, J Brosnahan, A Summer, J Lowndes, TJ Angelopoulos, JM Rippe. *Obesity Reviews* 2006; 7(Suppl 2): 260-261

Forty obese adults enrolled in a 12 week comprehensive weight-loss program (Weight Watchers) were randomized to one of two different diets: one focused on foods with a low energy density (ED) and another based on foods with a low-glycemic index (low GI) Both groups showed significant decreases ($p < 0.05$) in body weight, body fat waist circumference, cholesterol, HDL, insulin and HOMA insulin resistance. Additionally, there were no significant differences in any of the variables evaluated between both groups, indicating that both diets are equally effective at reducing cardiovascular risk when integrated into the Weight Watchers program.

- **Economic Evaluation of Weight Watchers in the Prevention of Obesity**
P Trueman, S Flack. (Abstract). Clinical Excellence, Birmingham, December 2006.

An economic model was used to determine the cost-effectiveness of the Weight Watchers program. The findings showed Weight Watchers to have similar cost-effectiveness to other interventions (e.g. such as counselling or school based interventions) already provided by the National Health Service (NHS) and to offer a cost effective means of providing weight management services.

- **Parent-Focused Intervention Shows Promise in Treating Excess Weight in Children**

K Miller-Kovach, C Horning, RWilde, J Hartman. *Obesity* 2006; 14(Suppl): A155.

33-week data on 54 children was provided from a pilot program that offers a family-based, comprehensive weight management program. The researchers found that the average %-tile of BMI-for-Age was 97.0 ± 3.0 at the time the program was started and 95.8 ± 5.0 at 33 weeks. 23 of the children with excess weight reduced their BMI-for-Age, while 3 stayed the same and 6 increased. The average %-tile change in BMI-for-Age was +1.1 in those who gained and -2.0 in children that lost weight.

- **Food Plans Based on Energy Density or Glycemic Index Have Same Effect on Hunger and Satiety When Used in Comprehensive Weight Loss Program.**

A Summers, J Brosnahan, V Nguyen, L Zukley, J Lowndes, TJ Angelopoulos, JM Rippe. *Obesity* 2006; 14(Suppl): A183.

A total of 60 overweight adults enrolled in a 6 week comprehensive weight-loss program were randomized at the beginning to two different diets: one focused on foods with a low energy density (ED) and another based on foods with a low-glycemic index (low GI). The study found no significant differences between diet groups for weight loss, total calories consumed or feelings of hunger and satiety.

- **Portion Control, Low Energy Density, and Low Glycemic Index Diets Yield Comparable Glycemic Index and Glycemic Load Values When Provided as Part of a Comprehensive Weight-Loss Program.**

J Brosnahan, A Summers, V Nguyen, L Zukley, J Lowndes, N Meade, TJ Angelopoulos, JM Rippe. *Obesity* 2006; 14 (Suppl): A181.

A total of 42 overweight adults enrolled in a 12-week comprehensive weight-loss intervention were randomized at the start to one of three diets: 1) a food plan emphasizing portion control (PC); 2) a food plan focused on choosing foods with a low energy density (ED); and 3) a food plan based on a low glycemic index pyramid (GI). The researchers found no significant differences between diet groups for weight loss, calories consumed, macronutrient composition, or GI. These findings suggest that a variety of food plans based on making healthy, lower calorie food choices have a low glycemic index.

- **A Comprehensive Weight-Loss Program vs. Exercise Alone: The Effects on Glucose Tolerance and Insulin Sensitivity during a Randomized Interventional Trial.**

V Nguyen, L Zukley, J Lowndes, M Paul, TJ Angelopoulos, R Alvarado, D Knapp, N Meade, R Carpenter, J Fiutem, JM Rippe. *Obesity* 2006; 14(Suppl): A181.

One hundred nine non-diabetic overweight and obese subjects were randomized to one of two weight-loss interventions: Weight Watchers (WW) or Exercise Only (EO). After 12 weeks, the WW group had a significant improvement in glucose area under the curve ($p < 0.05$) that was not observed in the EO group suggesting greater improvement in glucose tolerance.

- **Regular Meeting Attendance as Part of a Comprehensive Weight-Loss Program Decreases Insulin Resistance and Body Weight.** L Zukley, V Nguyen, A Summers, M Paul, J Brosnahan, R Alvarado, J Lowndes, N Meade, D Knapp, TJ Angelopoulos, JM Rippe. *Obesity* 2006; 14(Suppl): A252.

Attendance at Weight Watchers meetings for a 24-week period was tracked among 42 overweight and obese individuals participating in a randomized clinical trial. Individuals who attended the highest percentage of weekly meetings had significantly greater weight loss and decreases in waist circumference compared to those who attended infrequently. Greater improvements were also found in fasting glucose, fasting insulin ($p=0.05$) and insulin resistance ($p=0.02$). These findings demonstrate that regular attendance plays a significant role in weight-loss success.

- A Comprehensive Weight-Loss Program vs. Exercise Alone: The Effects on Waist Circumference and Triglycerides during a Randomized Interventional Trial.

J Lowndes, L Zukley, B Lebaron, M Paul, N Meade, R Alvarado, R Carpenter, C Greenstone, TJ Angelopoulos, JM Rippe. *Obesity* 2006; 14(Suppl): A181.

Eighty overweight and obese subjects were randomized to one of two weight-loss interventions: Weight Watchers (WW) or Exercise Only (EO) for 12 weeks. While both groups showed significant decreases in triglyceride levels, the WW group also showed a significant decrease in weight and waist circumference. These additional changes may also lower the risk of developing Coronary Heart Disease.

- A Commercially Available Program for Weight-Loss Results in Improvements in Insulin Resistance in Overweight and Obese Individuals

L Zukley, J Lowndes, J Rippe. *Endo* 2006; 147: 675.

Eighty non-diabetic were randomly assigned into one of two groups for weight loss -- exercise (E) or Weight Watchers (WW). After 24 weeks, weight, fasting glucose, and HOMA were significantly reduced in WW but not in E group, showing that this weight-loss method achieved significant weight loss coupled with significant improvements in insulin resistance.

- Regular Attendance Enhances Results in a Comprehensive Weight-Loss Program

L Zukley, J Lowndes, V Nguyen, T Angelopoulos, J Rippe. *Diabetes* 2006; 55(Suppl 1): A518.

Attendance at Weight Watchers meetings for a 24-week period was tracked among 40 individuals participating in a randomized clinical trial. Significant correlations were found between attendance and decreases in body weight ($r=.476$, $p=0.002$), BMI ($r=.492$, $p=0.001$) and waist circumference ($r=.455$, $p=0.003$). These findings show that regular attendance plays a significant role in weight-loss success

- Preservation of Fat-Free Mass with a Comprehensive Weight-Loss Program

L Zukley, J Lowndes, V Nguyen, R Melton, T Angelopoulos, J Rippe. *Medicine and Science in Sports and Exercise* 2006; 38(5): S461.

Thirty-three overweight and obese individuals (mean age 41.1 ± 5.8 years) were randomized to either Weight Watchers (WW) or an Exercise (EO) program for weight reduction. After both 12- and 24-weeks, only the WW group was successful at creating a significant weight loss while preserving fat-free mass; the EO group preserved fat-free mass but not achieve a significant weight loss. Maintaining fat-free mass is important during weight loss as it helps to sustain the loss by preserving the metabolic rate and also yields multiple health benefits.

- **Reducing the Risk of Diabetes: the effects of a commercial lifestyle modification weight-loss program on glucose tolerance and insulin sensitivity**
J Lowndes, L Zukley, P Lopez, M Paul, T Angelopoulos, J Rippe. *FASEB* 2006; 20(4): A585.

Thirteen nondiabetic subjects were followed for 24-weeks while participating in the Weight Watchers program. Significant improvements in fasting insulin and glucose, and HOMA were found, affirming that the Weight Watchers method may be of significant value in the prevention of diabetes.

- **Changes in Cardiovascular Risk Markers, including LDL Particle Size, from a Comprehensive Weight-Loss Program**
L Zukley, J Lowndes, R Melton, V Nguyen, R Emerson, B Lebaron, M Paul, P Lopez, R Carpenter, C Greenstone, T Angelopoulos, J Rippe. *Obesity Research* 2005; 13 (Suppl): A82.

Thirty-one overweight subjects in a 12-week study of the Weight Watchers program had significantly reductions in body weight, BMI, waist circumference, and LDL Particle Size. These changes may lower the risk of cardiovascular disease.

- **Cardiovascular Fitness with a Comprehensive Weight-Loss Program vs. Exercise Alone: A Randomized Intervention**
J Lowndes, L Zukley, J Fiutem, R Melton, V Nguyen, R Emerson, B Lebaron, M Paul, P Lopez, R Carpenter, C Greenstone, T Angelopoulos, J Rippe. *Obesity Research* 2005; 13 (Suppl): A138.

Fifty-eight overweight subjects were randomized to one of two weight-loss interventions: Weight Watchers (WW) or Exercise Only (EO). After 12 weeks, the WW group had significant improvements in body weight and fitness levels (as measured by VO_{2max}). The EO group neither lost weight nor improved fitness levels. It is hypothesized that better compliance to the comprehensive WW method may account for the results.

- **A Comprehensive Weight-Loss Program vs. Exercise Alone: The Effects on Metabolic Syndrome Risk Factors during a Randomized Intervention**
P Lopez, J Lowndes, L Zukley, R Melton, V Nguyen, R Emerson, B Lebaron, M Paul, R Carpenter, C Greenstone, T Angelopoulos, J Rippe. *Obesity Research* 2005; 13 (Suppl): A196.

Fifty-eight overweight subjects were randomized to one of two weight-loss interventions: Weight Watchers (WW) or Exercise Only (EO). After 12 weeks, the WW group had significant improvements in waist circumference, systolic and diastolic blood pressure, and triglyceride values. The EO group had a significant reduction in blood pressure and a significant increase in fasting glucose levels. Neither group had a change in HDL levels. The reduction in waist circumference in

the WW group is of particular value, indicating a loss of abdominal fat that is considered to be central to the development of metabolic syndrome.

- **Changes in Adiposity Following a Comprehensive Weight-Loss Program**

M Paul, P Lopez, J Lowndes, L Zukley, R Melton, V Nguyen, R Emerson, B Lebaron, R Carpenter, C Greenstone, T Angelopoulos, J Rippe. *Obesity Research* 2005; 13 (Suppl): A196.

Thirty overweight subjects enrolled in a study to evaluate the Weight Watchers program. After 12 weeks, the WW group had significant reduced body weight (4.9%), BMI, waist circumference, and body fat percentage (8.0%). There was also a significant reduction in lean body mass (2.9 kg).

- **Lower Hunger and Desire to Eat during 12 Weeks on a Modified Weight Watchers diet with Special Emphasis on Low-Glycemic Index Foods**

F Bellisle, AM Dalix, MA DeAssis, E Kupek, JM Oppert, A Basdevant, U Gerwig. *Obesity Reviews* 2005; 6 (Suppl 1): 154. – and –

- **Weight and Biological Changes after 12 Weeks on Moderately Restrictive Diets with or Without Special Attention to the Glycemic Index of Foods**

F Bellisle, AM Dalix, MA DeAssis, E Kupek, JM Oppert, A Basdevant, U Gerwig. *Obesity Reviews* 2005; 6 (Suppl 1): 157.

A total of 65 overweight women enrolled in a 12-week study analyzing the **POINTS**[®] Food System compared to the same diet modified to encourage the regular selection of foods with a low-glycemic index (low GI). An average 5% weight loss was achieved and insulin levels, blood lipids, systolic and diastolic blood pressure, and body fat levels were significantly improved in both groups. The study found that adding a recommendation to specifically include low-GI foods as an adjunct to the Weight Watchers **POINTS**[®] plan does not increase the amount of weight lost nor improve any of the health measures (e.g., blood pressure, blood insulin and lipid levels) compared to those instructed to follow the established Weight Watchers[®] **POINTS**[®] plan alone. The study did find that the **POINTS**[®] plan with emphasis on low-GI foods decreased hunger and desire to eat.

- **Long-Term Follow-Up Assessment of Successful Dieters in a Commercial Weight-Loss Program**

MR Lowe, J Thaw, K Miller-Kovach. *International Journal of Obesity* 2004; 28 (Suppl 1): S29.

Based on adjusted weights from a national telephone survey of Lifetime Members, weight regain at one, two, and five years was 20.3%, 34.2%, and 51.9%. An average of 71.6% of participants maintained a loss of 5% or more. These findings suggest that the method by which weight is lost may have an impact on weight maintenance and that the prognosis for weight maintenance is better than generally reported.

- Does a 16-week Weight Watchers Treatment Program Improve Food Habits in Obese Children?

M Laffrenzen, M Korner, M Nilsson, M Staffan, S Hellstrom. *International Journal of Obesity* 2004; 28 (Suppl 1): S196.

A Food Frequency Questionnaire was used to assess food habits before and following a 16-week treatment program in 22 obese Swedish children. Findings included significant increases in fruit intake and decreases in fat spread and sugar-sweetened products. There was no significant change in the intake of vegetables, potatoes, cereals, milk, meat, fish, egg and sausage.

- One-Year Follow-Up of Two Group Treatments for Children with Obesity

M Staffan, C Arfwidsson, K Elmberg, S Hellstrom, M Korner, M Nilsson, S Regber. *International Journal of Obesity* 2004; 28 (Suppl 1): S198.

A total of 55 obese Swedish children enrolled in either a 16-week physical training program or a pediatric-adapted Weight Watchers program. After 16 weeks, the Weight Watchers group were significantly slimmer than the physical training group. After one year, there were no significant differences in the groups, although drop-out rates in the physical training group were problematic. Compliance was significantly better in the Weight Watchers group.

- Do Obese Adolescents have Anorectic Body Size Ideals?

S Regber, C Arfwidsson, M Staffan, C Ronnback. *International Journal of Obesity* 2004; 28 (Suppl 1): S201.

A total of 34 obese Swedish children enrolled in either a 16-week a pediatric-adapted Weight Watchers program completed a 7-point questionnaire prior to treatment. The findings were that the children had realistic perceptions about their current body size and realistic expectations of body size outcome after treatment.

- Weight Loss with Self-help Compared with a Structured Commercial Program: a randomized controlled trial

S Heshka, F Greenway, JW Anderson, RL Atkinson, FL Greenway, JO Hill, S Phinney, RL Kolotkin, K Miller-Kovach, X. Pi-Sunyer. *Journal of the American Medical Association* 2003; 289 (14): 1792-1798.

This multicenter, randomized, parallel-group, 2 year trial evaluated two weight-loss methods – Weight Watchers and self-help. After both 1 and 2 years, body weight, body mass index, waist circumference were decreased significantly more in participants assigned to the Weight Watchers group (all $p < .001$). Positive changes in several biologic indices paralleled weight loss. In the Weight Watchers group, regular meeting attendance was significantly correlated with both weight loss and weight-loss maintenance.

- **Biological Indices from a 2-Year Randomized Controlled Trial of Weight Loss with Self-Help vs. A Structured Commercial Program**

K Miller-Kovach, S Heshka, JW Anderson, RL Atkinson, F Greenway, JO Hill, S Phinney, X. Pi-Sunyer. *The American Journal of Clinical Nutrition* 2002; 75(2S): 382S.

In addition to losing and maintaining significantly greater weight losses, regression analyses of systolic blood pressure, diastolic blood pressure, and glucose revealed that slopes tended to be significantly steeper in the Weight Watchers group, indicating greater improvement in health indices per unit weight loss, than the self-help group.

- **Self-Help Weight Loss Versus a Structured Commercial Program: a 2-year randomized controlled trial**

S Heshka, JW Anderson, RL Atkinson, F Greenway, JO Hill, S Phinney, K Miller-Kovach, X. Pi-Sunyer. *Obesity Research* 2001; 9(S3): 86S.

In this multicenter, randomized, parallel-group, 2 year trial, body weight, waist circumference and fat mass all decreased significantly more in participants assigned to the Weight Watchers group. Among those assigned to Weight Watchers, there were weight-associated decreases in fasting insulin, glucose, total cholesterol, triglycerides, and blood pressure along with increases in HDL cholesterol and HDL:TC ratio.

- **Weight-Loss Maintenance One to Five Years Following Successful Completion of a Commercial Weight Loss Program.**

MR Lowe, K Miller-Kovach, S Phelan. *International Journal of Obesity* 2001; 25: 325-331.

Based on corrected weights from a national telephone survey of Lifetime Members, weight regain ranged between 31.5 and 76.5%. At 5 years, 19.4% were within 5 pounds of their original weight goal, 42.6% maintained a loss of 5% or more, and 70.3% were below their initial weight.

- **Two-Year Randomized Controlled Study of Self-Help Weight Loss vs. A Structured Commercial Program**

S Heshka, JW Anderson, RL Atkinson, F Greenway, JO Hill, S Phinney, K Miller-Kovach, X. Pi-Sunyer. *The FASEB Journal* 2001; 15(4): A623.

At the ½, 1, and 2 year follow-ups, participants assigned to the Weight Watchers intervention maintained a greater weight loss than those assigned to the self-help group ($p < 0.001$ for each follow-up) in this multicenter, randomized, parallel-group, 2 year trial. In the Weight Watchers group, weight lost and maintained during the final 18 months was related to self-reported attendance at Weight Watchers meetings.

Those who reported attending >77% of the meetings maintained a mean weight loss in excess of 5% of initial body weight.

- **Self-Help Weight Loss Versus a Structured Commercial Program after 26 Weeks: a randomized controlled study**

S Heshka, F Greenway, JW Anderson, RL Atkinson, JO Hill, S Phinney, K Miller-Kovach, X. Pi-Sunyer. *American Journal of Medicine* 2000; 109 (9): 282-287.

Six months into this multicenter, randomized, parallel-group, 2 year trial, body weight, body mass index, waist circumference and fat mass all decreased significantly more in participants assigned to the Weight Watchers group (all $p < .001$). Serum homocysteine levels improved in the Weight Watchers group compared to the self-help ($p = .018$) as well.

- **Self-Help Weight Loss Versus a Structured Commercial Program after 26 Weeks: a randomized controlled study**

S Heshka, F Greenway, JW Anderson, RL Atkinson, JO Hill, S Phinney, K Miller-Kovach, X. Pi-Sunyer. *Obesity Research* 1999; 7(S1): 19S.

Interim results from this multicenter, randomized, parallel-group, 2 year trial indicate that, after 6 months, body weight, body mass index, waist circumference and fat mass all decreased significantly more in participants assigned to the Weight Watchers group (all $p < .001$). Fifty-three percent of the Weight Watchers group lost at least 5% of their initial body weight; the comparable number for the self-help group was 15%.

- **Weight-Loss Maintenance One to Five Years Following Successful Completion of a Commercial Weight Loss Program.**

MR Lowe, K Miller-Kovach, S Phelan. *Obesity Research* 1999; 7(S1): 43S.

Based on corrected weights from a national telephone survey of Lifetime Members, weight regain ranged between 31.5 and 76.5%. At 5 years, 19.4% were within 5 pounds of their original weight goal, 42.6% maintained a loss of 5% or more, and 70.3% were below their initial weight.

- **The Psychological Ramifications of Weight Management**

K Miller-Kovach, M Hermann, M Winick. *Journal of Women's Health* 1999; 8(4): 1-5.

A review of the medical and scientific literature that refutes the commonly held belief that weight loss induces deterioration in psychological well-being and leads to disordered eating.

- **Structured Commercial Weight Loss Program Improves Homocysteine Levels Compared to Self-Help Weight Loss**

S Heshka, F Greenway, K Miller-Kovach, F X Pi-Sunyer. *The FASEB Journal*, 1999; 13(4): A269.

Elevated homocysteine levels have been linked with risk of coronary heart disease and are known to be affected by the nutritional quality of the diet. This study compared changes in serum homocysteine levels among two groups of obese patients after 12 weeks. One group was attempting to lose weight on their own; the other was participating in the Weight Watchers program. The change in homocysteine levels among the Weight Watchers group showed a significant improvement when compared with the self-help dieters. This improvement was not related to weight loss but was significantly related to the weight loss program, suggesting that those in the Weight Watchers group increased, and those in the Self-Help group decreased, their dietary intakes of those nutrients that positively influence homocysteine levels.

- **An Initial Evaluation of a Commercial Weight Loss Program: Short-Term Effects on Weight, Eating Behavior and Mood**

M Lowe, K Miller-Kovach, N Frye, S Phelan. *Obesity Research* 1999; 7(1):51-59.

This randomized prospective trial demonstrated that, compared to individuals assigned to lose weight through a self-help method, those participating in the Weight Watchers program for 4 weeks showed statistically significant improvements in weight loss, psychological vitality, and eating behavior. Moreover, the superior outcomes shown by Weight Watchers participants on measures of vitality and eating behavior were evident even when the extent of weight loss was controlled.

- **An Initial Evaluation of a Commercial Weight Loss Program: Short-Term Effects on Weight, Eating Behavior and Mood**

M Lowe, K Miller-Kovach, N Frye, S Phelan. *J Am Dietet Assoc* 1998; 98(9):A-13.

This randomized prospective trial demonstrated that, compared to individuals assigned to lose weight through a self-help method, those participating in the Weight Watchers program for 4 weeks showed statistically significant improvements in weight loss, psychological vitality, and eating behavior. Moreover, the superior outcomes shown by Weight Watchers participants on measures of vitality and eating behavior were evident even when the extent of weight loss was controlled.

- **Weight Maintenance among Weight Watchers Lifetime Members**

K Miller-Kovach, M Winick, A Holochuck. *The FASEB Journal*, 1998; 12(5): A863.

In a 1997, Weight Watchers International conducted a survey of its Lifetime Members to ascertain maintenance of weight loss. The survey included a method to verify self-reported weights. A highly significant correlation ($r=.97$) was found between self-reported and measured weight. Among Lifetime Members, over half (52%) are at their original weight goal – that is, they've kept the weight off -- 2 years after completing the weight-loss program and more that one-third (37%) have done so after 5 years. The belief that everyone regains their weight (and more) after

completing a weight-loss program is not true – at least for those completing the weight-loss phase of the Weight Watchers program.

- **Improved Psychological Well-Being, Quality of Life, and Health Practices in Moderately Overweight Women Participating in a 12-Week Structured Weight Loss Program**

JM Rippe, JM Price, SA Hess, et al. *Obesity Research* 1998; 6(3): 208-218.

This single-center, randomized prospective trial demonstrated that among a group of moderately overweight women, 12 weeks of participation in the Weight Watchers program resulted in statistically significant improvements in weight loss, fat loss, activity levels, and several quality of life indices. The researchers concluded that Weight Watchers is effective for weight loss and yields significant health and psychological benefits.

- **Maintenance of Weight Goal among Weight Watchers Lifetime Members**

G Christakis, K Miller-Kovach. *Nutrition Today* 1996; 31(1): 29-31.

In 1993, Weight Watchers International conducted a survey of its Lifetime Members to ascertain maintenance of weight loss after 1-to-12 years. The survey was conducted by telephone with a random national sample of 1200 people and relied on self-reported weights. Among Lifetime Members, the average weight loss achieved to become Lifetime Members was 28.8 pounds; two-thirds (67%) reported continued maintenance of their original weight loss within 5 pounds. The percent of Lifetime Members maintaining their weight loss ranged from 97% for those who had achieved the loss one year prior to 37% for those who had completed the weight loss 5-12 years prior to the survey. This data challenged the often-cited statistic of a “95% failure rate” for weight loss programs