Review Literatures of workplace intervention

Royal College of Family Physician
Prevalence and Associated Risk Factors of the Metabolic Syndrome in the Korean Workforce

Eating behavior related to obesity and job stress in male Japanese workers.

Are physical activity and nutrition indicators of the checklist of health promotion environments at worksites (CHEW) associated with employee obesity among hotel workers?

Relationship between obesity, alcohol consumption, and physical activity of male office workers in South Korea.

US acculturation is associated with health behaviors and obesity, but not their change, with a hotel-based intervention among Asian-Pacific Islanders.
PREVALENCE AND ASSOCIATED RISK FACTORS OF THE METABOLIC SYNDROME IN THE KOREAN WORKFORCE

- Data: secondary data analysis study using the data set from the Korean National Health and Nutrition Examination Survey IV

- 1,545 Korean workers, age >20 yrs old

- Result: Prevalence of metabolic syndrome: 21.0% (Male 28.5%, Female 11.8%)

  - Male workers with high job control and heavy alcohol consumption, level of job control in both male and female workers significantly associated with metabolic syndrome

- Suggestion: smoking cessation, moderating alcohol consumption, and controlling work-related factors and job control
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- Worksite intervention effects on physical health: a randomized controlled trial.

- An office-place stepping device to promote workplace physical activity.

- Pausa para tu Salud: reduction of weight and waistlines by integrating exercise breaks into workplace organizational routine.

- Obesity and the workplace: current programs and attitudes among employers and employees. (survey)

- Worksite environment intervention to prevent obesity among metropolitan transit workers.

- One year sustainability of risk factor change from a 9-week workplace intervention.

- Perceived stress, behavior, and body mass index among adults participating in a worksite obesity prevention program, Seattle, 2005-2007
- Efficacy of a workplace-based weight loss program for overweight male shift workers: the Workplace POWER (Preventing Obesity Without Eating like a Rabbit) randomized controlled trial.

- Comparing disparities in the health-promoting lifestyles of Taiwanese workers in various occupations.

- Effectiveness of a workplace wellness program for maintaining health and promoting healthy behaviors.

- [Obesity and work: proposal for a multidisciplinary intervention model for prevention and its application in an engineering plant].

- Diet, physical exercise and cognitive behavioral training as a combined workplace based intervention to reduce body weight and increase physical capacity in health care workers - a randomized controlled trial.

- Treadmill workstations: a worksite physical activity intervention in overweight and obese office workers.

- [Health promotion and obesity in the workplace among health care workers of a hospital in Catania (Italy)].
WORKSITE INTERVENTION EFFECTS ON PHYSICAL HEALTH: A RANDOMIZED CONTROLLED TRIAL.

- a randomized controlled trial

- 73 (women = 37, men = 36) healthy but sedentary subjects were recruited from a single worksite (Australian casino with 3800 employees)

- Intervention: Supervised exercise prescription (aerobic, weight training), Behavior modification strategies (educate and counseling), Dietary profile

- Result: between-group differences in the mean waist circumference (82.3 ± 9.2 versus 90.5 ± 17.8 cm, p = 0.01) and predicted VO2max (47 versus 41 ml/kg/min, p < 0.001) remained significant without the outlier, favouring the intervention.

- No significant effects on body mass or body mass index were found.

- significantly improved waist circumference and aerobic fitness in healthy but sedentary employees, most of whom were shift workers.
AN OFFICE-PLACE STEPPING DEVICE TO PROMOTE WORKPLACE PHYSICAL ACTIVITY.

- 19 subjects
- The office-place stepping device was associated with an increase in energy expenditure above sitting in an office chair
PAUSA PARA TU SALUD: REDUCTION OF WEIGHT AND WAISTLINES BY INTEGRATING EXERCISE BREAKS INTO WORKPLACE ORGANIZATIONAL ROUTINE.

- Sample: 335 MMH health and social services office workers

- uncontrolled, pretest–post-test study design.

- regular work activity.

- each morning (11–11:30 am). They began as 10 minutes of light stretching and dance movements and gradually increased in intensity as participants’ fitness levels improved.

- Body mass index decreased by 0.32 kg/m² (P = .05), and waist circumference by 1.6 cm (P = .0009) overall.

- The body mass index decrease, however, was significant only for men (−0.43 kg/m², P = .03).

- a significant decrease in diastolic blood pressure among women (z = −2.04, P = .042).
OBESITY AND THE WORKPLACE: CURRENT PROGRAMS AND ATTITUDES AMONG EMPLOYERS AND EMPLOYEES.

- Survey of employers: 505 randomly selected public and private employers.

- Survey of employees: conducted a survey of U.S. households. 1,352 interviews with people who satisfied the criteria

- Study Findings: Both employers and employees view weight management programs at the workplace as appropriate and effective, healthy snack machine options, discounts or waived fees for gym memberships, nutritional information in employee cafeterias, health risk assessments, health coaching programs, and on-site exercise facilities

- both employers and employees support positive financial incentives over punitive or negative incentives for employees to address their weight.
WORKSITE ENVIRONMENT INTERVENTION TO PREVENT OBESITY AMONG METROPOLITAN TRANSIT WORKERS.

- Four garages (two urban; two suburban) were randomized within pair to intervention or control.

- The survey and weight and height measures took about 45 minutes to complete. Employees received a $20 incentive for completing the survey.

- Intervention: Garage advisory groups, changing the physical and social environment at the garages, increased the availability and lowered the price of healthful food and beverage vending machine choices, Fitness facilities, Self-weighing team competition, Behavioral food and physical activity programs, Route H garage expo, Farmer’s markets at garage, New driver weight gain prevention peer mentoring program.

- Result: BMI change was $-0.14$ kg/m$^2$, which was not statistically significant, significant decrease in energy intake and a significant increase in fruit and vegetable servings per day were observed in intervention garages.
ONE YEAR SUSTAINABILITY OF RISK FACTOR CHANGE FROM A 9-WEEK WORKPLACE INTERVENTION.

- 12 weeks longitudinal group intervention study with a followup after 52 weeks

- Staff from the Auckland University of Technology aged 30 years or more were recruited

- 39 subjects presented for a sixth set of measurements at 52 weeks

- Food frequency and physical activity questionnaires, designed to ask questions about current practice around the dietary and physical activity goals of the intervention
After the 3 weeks measurements the group gathered together for motivational talk on diet and exercise, and were provided with tailored written material and pedometers to increase motivation.

The number of servings of each food group was balanced over 3 meals and 3 snacks so that the recommended diet was 50%–60% energy from carbohydrates, 15–18% energy from protein and 24%–27% energy from fat.
Results

- 74% of the participants were classified as being overweight or obese using BMI cut off values and 11 women and 6 men had waist measurements that indicated that their abdominal fat stores were placing them at risk of CVD and type 2 diabetes.

- No changes in anthropometry were seen over the 12.52 week study period.

- Total cholesterol, LDL cholesterol, and total to HDL cholesterol ratio were lower at the end of the 12-week study period, HDL cholesterol did not change.

- Food frequency questionnaire over the 52-week period, the proportion of participants consuming fruit at a rate of 2 or more portions per day increased from 47% to 62% and for oily fish 3 times a week from 14% to 42%.

- Vigorous activity during the week increased.
DIET, PHYSICAL EXERCISE AND COGNITIVE BEHAVIORAL TRAINING AS A COMBINED WORKPLACE BASED INTERVENTION TO REDUCE BODY WEIGHT AND INCREASE PHYSICAL CAPACITY IN HEALTH CARE WORKERS - A RANDOMIZED CONTROLLED TRIAL.

- 98 female, overweight health care workers

- Cluster-randomized to an intervention group or a reference group

- The intervention
  
  - Individually dietary plan with an energy deficit of 1200 kcal/day (15 min/hour)
  
  - Strengthening exercises (15 min/hour)
  
  - Cognitive behavioral training (30 min/hour) during working hours 1 hour/week. Leisure time aerobic fitness was planned for 2 hour/week
• Results:

• Intervention group **significantly** reduced body weight with 3.6 kg

  - BMI from 30.5 to 29.2

  - Body fat percentage from 40.9 to 39.3

  - Waist circumference from 99.7 to 95.5 cm

  - Blood pressure from 134/85 to 127/80 mmHg

  - Increased aerobic fitness
PERCEIVED STRESS, BEHAVIOR, AND BODY MASS INDEX AMONG ADULTS PARTICIPATING IN A WORKSITE OBESITY PREVENTION PROGRAM, SEATTLE, 2005-2007

- group-randomized worksite intervention to prevent weight gain in the Seattle metropolitan area from 2005 through 2007

- 21 participants at 33 worksites

- Results: Perceived Stress Scale-10 score among all participants was 12.7 (6.4), and the mean (SD) BMI was 29.2 kg/m² (6.3 kg/m²)

- Higher levels of perceived stress were associated with

  - lower levels of eating awareness, physical activity, and walking. Among participants who had low levels of eating awareness

  - fewer servings of fruit and vegetables and greater consumption of fast food meals.

- Suggestion: stress management or mindfulness techniques in workplace obesity prevention efforts
• The impact of obesity on work limitations and cardiovascular risk factors in the U.S. workforce.

• Health economics of weight management: evidence and cost.

• A multi-worksite analysis of the relationships among body mass index, medical utilization, and worker productivity.

• Obesity and sickness absence: results from the CHAP study.

• [Intervention for prevention and therapy of overweight-obesity in an engineering company].

• The impact of a workplace-based weight loss program on work-related outcomes in overweight male shift workers.
OBESITY AND SICKNESS ABSENCE: RESULTS FROM THE CHAP STUDY.

• Cross-sectional (n = 1489) and prospective (n = 625) analyses (London Underground Ltd.)
• Results: positive linear association between employees' body mass index (BMI) and the number of days' work missed due to sickness absence
  - Obesity was a risk factor for both short- and long-term sickness absence.
• Cost-effectiveness of a workplace-based incentivized weight loss program.
Cost-effectiveness of a workplace-based incentivized weight loss program.

- 72 overweight and obese health care workers

- Results: - significant difference between the average per-participant weight change between incentivized sites (-7.4 lb) and nonincentivized sites (-2.2 lb)
  
  - The cost-effectiveness ratios per pound of weight loss were $25.5 and $58.1, respectively