

Appendix E-2.36: Evidence Portfolio

Part D. Chapter 4: Food Environment and Settings

What is the impact of worksite policies on the weight status of employees?

Conclusion Statement: The body of evidence assessing the impact of worksite policies on the weight status of employees is very limited.

DGAC Grade: Not Assignable

Key Findings

- This evidence portfolio includes one systematic review (Kahn-Marshall, 2012) which evaluated 27 studies published between 1985 and 2010. The review examined the evidence for the effectiveness of worksite health promotion programs using environmental and/or policy changes either alone or in combination with individually-focused health behavior change strategies.
- The studies used a variety of policies targeting behaviors which can impact weight status; some studies assessed the impact of policies (e.g., catering policies and company policies rewarding employees for healthy behaviors) combined with individual-level strategies. Some interventions were multi-component, with a combination of strategies targeting employees (e.g., point-of-choice messaging including nutrition information in cafeterias and reminders to use stairs) and/or the food environment at the worksite (e.g., increased availability of healthy food options). The health outcomes of interest included BMI, blood pressure, and cholesterol.
- In the body of evidence available, worksite policies either alone or in combination with individually-focused health behavior change strategies did not impact the weight status of employees. However, interventions incorporating both environmental and individual strategies can lead to significant improvement in behaviors related to weight status (e.g., dietary intake). The lack of impact may be due to length of exposure or the duration of the follow-up period.
- The evidence base includes one review evaluating several studies by independent investigators with sufficient sample sizes. Some inconsistency is evident across studies in regards to scientific rigor. Due to the variability of studies and paucity of data, no consistent associations regarding worksite policies and the weight status of employees were evident.

Description of the Evidence

This evidence portfolio includes one systematic review published by Kahn-Marshall and Gallant in 2012. The review includes 27 studies published between 1985 and 2010. Study designs included 10 randomized controlled trials (RCTs), 11 quasi-experimental studies, and 6 studies lacking experimental design. Eleven studies focused on environment or policy alone; sixteen interventions were multicomponent. The review had relatively low risk of bias, as evidenced by an AMSTAR score of 8 points out of a possible 11. The methodological quality of the studies included in the review was assessed based on six criteria (sample size, study design, validity of measurement instrument for self-reported data, reliability of measurement instrument for self-reported data, type of data collection, and follow-up). Studies received a plus or a minus depending on whether they met each criterion. Studies were considered of a relatively high quality if five or more of the criteria were scored positively. No studies were excluded due to poor quality. Eight studies were rated high quality.

Population

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The studies examined employees of blue- and white-collar worksites. The reported sample sizes ranged from 177 to 26,806 adults. Fourteen studies were conducted in the United States and thirteen were conducted in other highly developed countries. The review did not review or present results by gender or race/ethnicity (refer to the Overview Table for review-specific details).

Exposures

The studies included in the review examined a variety of worksite environmental policies, alone and in combination with individual-level strategies (e.g., health education and informational materials) targeting health behaviors. For example, the impact of point-of-choice messages (e.g., nutrition information in cafeterias, reminders to use stairs, etc.), increased availability of healthy food options, catering policies, and company policies rewarding employees for healthy behaviors were evaluated.

Outcomes

The primary outcomes of interest were dietary behaviors (e.g., intake of fruits, vegetables, meat, and sugar-sweetened beverages), physical activity (e.g., minutes of exercise per week and stair use), and health outcomes (e.g., blood pressure, BMI, and blood cholesterol).

Evidence Synthesis

Kahn-Marshall and Gallant reviewed studies evaluating the effectiveness of worksite health promotion programs using environmental and/or policy changes either alone or in combination with individually-focused health behavior change strategies. Only one study evaluated the impact of an environmental change or company policy, without incorporating individual behavior. Although this study reported decreased prevalence in obesity, hypercholesterolemia, hypertension, and smoking four years after initiating a company policy rewarding healthy behaviors, there was no control group. Nine studies assessing environmental and individual strategies in combination did not demonstrate any significant improvements in health outcomes, despite five studies reporting significant improvement in dietary behaviors.

Overview Table

Summary of systematic review examining the impact of worksite policies on the dietary intake, quality, behaviors and/or preferences of employees			
Author, Year Study Design AMSTAR Score* Number of Included Studies	Purpose of Review Subject Population Location of Included Studies	Independent Variable Outcomes	Results

<p>Kahn-Marshall, 2012</p> <p>Systematic review</p> <p>AMSTAR Score: 8/11</p> <p>27 studies:</p> <ul style="list-style-type: none"> • 10 randomized controlled trials; 11 quasi-experimental; 6 lacking design • 8 deemed high quality • 16 multicomponent; 11 environmental or policy alone 	<p>Examine the evidence for the effectiveness of worksite health promotion programs using environmental and/or policy changes either alone or in combination with individually focused health behavior change strategies</p> <p>Employees of blue- and white-collar worksites</p> <p>Location: 14 in the US 4 Netherlands 2 Japan 1 each in Scotland, Canada, Mexico, New Zealand, Chile, US+Canada</p>	<p>Independent variables:</p> <ol style="list-style-type: none"> 1. Only environmental and policy changes at the worksite 2. Multicomponent interventions that included changes to the worksite <p>Outcomes:</p> <ul style="list-style-type: none"> • Dietary behaviors (e.g., fruit and vegetable intake, SSB intake, meat intake) • Physical activity behaviors (e.g., stair use, minutes/week) • Health outcomes (e.g., blood pressure, BMI, blood cholesterol) 	<p>Only Environment and/or Policy Changes:</p> <p>One pre/post study evaluated the impact of company policies which rewarded employees for healthy behaviors. After 4 years, prevalence of obesity, high blood cholesterol, smoking, and high blood pressure had decreased.</p> <p>Environment & Individual-level Strategies:</p> <p>Compared to environmental-only studies, the 9 studies that included policies and individual-level strategies (targeting nutrition and physical activity) were more likely to address health risk indicators (e.g., BMI) but no significant improvements were reported .</p>
<p>*Quality assessed by AMSTAR (Shea, 2007: http://www.ncbi.nlm.nih.gov/pubmed/17302989)</p>			

Assessment of the Body of Evidence

Quality and Quantity: The evidence base includes 27 independent studies with 10 randomized controlled studies evaluated in a high-quality systematic review with an AMSTAR score of 8 out of 11 possible points. However, some of the individual studies included in the review lacked scientific rigor.

Consistency: Across individual studies, worksite policies did not significantly alter health outcomes of interest.

Impact: Due to a lack of effectiveness and limited findings, the impact of worksite policies for health promotion on weight outcomes is relatively unknown.

Generalizability: The studies included in the review were geographically diverse (both nationally and internationally), but information on the characteristics of the participants was very limited. Thus, the generalizability of the findings is not known with confidence.

Limitations: While the systematic review conducted by Kahn-Marshall and Gallant is of high quality, the quality of the studies included in their assessment varied, with only eight studies deemed to be of higher quality (out of 27 total studies).

Implications*

Existing evidence indicates that worksite approaches focused on dietary intake can increase fruit and vegetable intakes of employees. Multi-component programs targeting nutrition education in combination with dietary modification interventions are found to be effective. Additionally, environmental modifications in conjunction with a variety of worksite policies targeting dietary modification, including point-of-purchase information, catering policies, and menu labeling are effective. Thus, these evidence-based strategies should be implemented in worksites through a variety of means, such as corporate wellness programs, food service policies, and health benefits programs. Programs should emphasize multi-component approaches targeting diet and physical activity while policies should support behavior changes associated with improving health outcomes such as increasing the availability of healthy foods within the workplace and encouraging more physical

activity throughout the workday. Given that approximately 64 percent of adults are employed and spend an average of 34 hours per week at work, the workplace remains an important setting for environmental and behavioral interventions for health promotion and disease prevention.

Research Recommendation*

Assessments of the effectiveness of worksite interventions that emphasize obesity prevention and weight control among workers across racially/ethnically diverse populations, blue and white collar employees, and at risk populations are needed. Scientifically rigorous studies (especially RCTs) addressing long-term health impact of worksite-based approaches and policies that improve employee diet, physical activity, and body weight control would have public health relevance.

Rationale: In light of the high rates of obesity and overweight, worksite interventions targeting obesity prevention and weight control, via enhanced dietary behaviors and increased physical activity among workers is important. The majority of the studies to date have been conducted for a relatively short period of time, and the long-term impact of these approaches and policies may prove beneficial.

*Because the four worksite questions are complementary, the Dietary Guidelines Advisory Committee chose to develop only one implication statement and research recommendation for all of the questions.

Reference

Kahn-Marshall JL, Gallant MP. Making healthy behaviors the easy choice for employees: a review of the literature on environmental and policy changes in worksite health promotion. *Health Educ Behav* 2012;39(6):752-776. PMID: 22872583 <http://www.ncbi.nlm.nih.gov/pubmed/22872583>