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Obesity/Overweight and the Role of Working Conditions:

A Qualitative, Participatory Investigation

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The Center for the Promotion of Health in the New England Workplace at the University of Massachusetts Lowell and the University of Connecticut, the Massachusetts Coalition for Occupational Safety and Health (MassCOSH), and the Boston Worker's Alliance (BWA).

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Executive Summary

The rising rates of obesity in the U.S. are generating significant concern, and a variety of efforts are underway to slow the trend. Most interventions target individual behaviors related to weight gain (diet and physical activity), and the impact of the work environment on obesity has been under-appreciated to date. Although the work environment has been recognized as an important factor for other health and safety outcomes, the impact of working conditions on overweight and obesity has been largely ignored. Additionally, with 3.8 million workers earning at or below the federal minimum wage and 19.4% of those workers spending 40 hours or more per week on the job, it is imperative to examine the impact of work on health and weight , especially for low-income workers, given the socioeconomic disparities that exist in rates of obesity in the United States.

This study investigated whether lower-income workers perceived any factors in the workplace that have an effect on their weight status. The research was carried out through a community partnership between University researchers and worker leaders from organizations representing lower income workers. Initially, anecdotes shared by lower income workers with worker advocacy organizations spurred the generation of this study.

Ninety-two low-wage Latino and Black or African American workers contributed to the study. Eight focus groups were conducted with a total of 63 workers in the Greater Boston area, both male and female, Latino and Black or African American. Another four workers participated in in-depth interviews to augment the results of the focus groups. Three additional stakeholder meetings were conducted with 25 low-wage workers to review and comment on the preliminary findings of the study and seek additional input on recommendations.

Participants came from a variety of industries, including housekeeping/cleaning, restaurant/food service, construction, healthcare/human services, and manufacturing. They described a range of factors influencing their diet, exercise, and body weight – notably, time pressure, psychological stress, and decreased ability to exercise after injury or illness (i.e., depression). These findings are supported by additional in-depth interviews with lower-income workers, examination of national data, and a review of existing scientific literature. These combined inputs provide a multifaceted picture of the role of working conditions in the development of overweight/obesity among lower-income workers.

Significance

Obesity *is widely recognized* as a significant public health issue, contributing to numerous preventable chronic diseases including heart disease, stroke, cancer, and diabetes. According to the Centers for Disease Control and Prevention, more than one-third of U.S. adults (35.7%) are obese.[2] Additionally, it is well established that overweight and obesity rates are disproportionately higher for lower-income individuals, and in particular, lower income Black or African Americans and Latino Americans.

While it is recognized that overweight and obesity disproportionately affect lower-income individuals, most studies have focused upon how increased income facilitates greater access to healthier lifestyles (ability to afford healthier foods, live in safer neighborhoods with more access to recreational spaces, etc.). Other studies show sedentary jobs as a contributing factor to overweight and obesity. However, this is often not the experience of lower income workers. These workers are more likely involved in physically demanding work, and are often too fatigued or debilitated to enjoy physical activity in their leisure time.

As a result, the programs initiated to date tend to focus on encouraging individuals to increase physical activity either before work (such as walk-to-work programs), or during work (such as providing treadmills or encouraging the use of stairs). Other interventions focus on educating workers about nutrition and healthy eating habits. However, these traditional interventions fail to address the factors influencing obesity in the workplace, as experienced by the millions of low-income workers in the United States.

The present study aims to explore how working conditions faced by lower-income workers affect weight status, a question not previously addressed in the literature.

Findings

Through the eight focus groups and four in-depth interviews, the low-wage workers conveyed several factors that they perceive to have an impact on body weight. The main results are highlighted below:

1. Physically Demanding Work

   "I don't have the desire to do exercise after standing for 15-16 hours…I just want to eat and sleep…The next day is the same thing all over again."

   - Having a physically demanding job often resulted in illnesses and/or injuries, influencing workers' ability to participate in physical activity outside of the job.
   - Physical fatigue from work played a role in the quantity of food consumed at the end of the workday.

2. Psychosocial Stressors

   "The work that three people used to do is given to one person. That creates more stress and eating more…"

   - Experiences of high demands in the workplace led some workers to feel stressed and consume more high-calorie foods, such as candy and soda.
   - Workers reported feelings of exhaustion, having multiple jobs and responsibilities, and scheduling as elements of a heavy workload.

3. Time Pressure

   "At 10:00 a.m., they give me a 15-minute break. I don't have time to eat healthy food, even if I bring homemade food. I don't have time to do exercise."

   - Many workers reported having only 15 minutes to eat during their working hours, making it difficult to prepare and eat healthy food in a short period of time.
   - Female workers often discussed the interaction between work and family, specifically how the combination of responsibilities at work and at home reduced available time to engage in physical activity and eat healthy. For these workers, reliance on convenience foods was a particularly important time-saving strategy.

4. Food Environment at Work

   "I cannot even talk about the cafeteria because that 'cafeteria' is in the corner of a dirty and unsanitary room."

   - Workers reported having limited access to healthy food, due to their limited mealtime and the location of their workplace.
   - Many workplaces fail to provide workers with the appropriate equipment and space to eat meals, influencing workers' diet.

Recommendations

To enhance the working conditions reported by lower-wage workers in the study, the following recommendations are aimed at employers, policymakers, and stakeholders:

Recommendations for Employers:

Breaks and Meals

- Allow sufficient time for breaks and meals; provide the state-mandated 30 minutes consecutively, as a single break.
- Support daily communication of rest and meal break times to employees, to reduce anxiety about hunger and to facilitate healthy meal planning.
- Provide a clean space for eating, with sufficient functional equipment (refrigerator, microwave) for the number of employees on site.

Workload and Scheduling

- Determine physical workloads that are moderate enough to avoid excessive fatigue and risk of injury.
- Institute health and safety programs that identify and reduce or eliminate ergonomic hazards.
- Involve workers in scheduling decisions for shift work and overtime to promote family balance and mental health.

Other

- Encourage supportive supervisory and management styles.
- Promote programs that identify and eliminate bullying and sexual harassment.
- Select group health coverage and third party service contractors that address working conditions and are sensitive to the needs of low-wage workers.
- Establish worker-management committees that incorporate health, safety, and wellness.

Recommendations for Government and Public Policy-makers:

- Address working conditions as part of workplace obesity or “wellness” programs.
- When developing employer tools and resources for promoting employee health, include recommendations and strategies for addressing working conditions that affect health.
- Include occupational health experts in obesity reduction and other wellness advisory councils.

- Increase funding for applied research on the impact of improved working conditions and meal policies on obesity reduction.
- Routinely incorporate information about occupation and industry in the Behavioral Risk Factor Surveillance Survey (BRFSS) and report on patterns of obesity by industry, occupation, and other demographic characteristics
- Develop and implement a state-specific BRFSS module to collect additional information on working conditions related to diet and exercise behaviors.

Recommendations for Insurance Companies

- Establish insurance rate reduction programs for employers that improve workplace health and safety. Extend these benefits to employers who make work environment improvements that affect obesity.
- Track participation in Worksite Health Promotion by job type; Use this data to identify and address potential barriers to participation for low-wage workers.

Recommendations for Funders

- Increase funding for intervention research on the impact of improved working conditions and meal policies on obesity reduction, especially among low-income workers.
- Promote funding for employer and worker initiatives that contribute to the improvement of working conditions to support good nutrition, physical activity, and psychosocially strong workplaces.

Recommendations for Unions and Worker Groups

- Educate workers about the impact of working conditions on weight, and engage them in participatory programs to increase the health status of lower income workers.
- Establish union health and safety committees that integrate issues related to weight and wellness.

Background

Obesity has become a significant public health issue in the United States and elsewhere. Obesity rates among U.S. employed persons have risen substantially in recent years, but with important differences by race and ethnicity, socioeconomic status, and job type. Black workers have the highest rates of obesity among U.S. working adults, especially among women.[1] Additionally, Latinos have a higher Body Mass Index (BMI) as compared to non-Latino whites.[2] Lastly, in certain occupations, obesity rates vary by gender. Among motor vehicle operators and material moving equipment operators, rates are higher for men; while women are more likely to be obese in occupations like cleaning and building services.

The workplace affects health in various ways. Physical working conditions can increase the likelihood of injury and illness, particularly when the work is physically demanding.[3] Work that entails moving heavy materials or repetitive motions can cause musculoskeletal disorders like low back pain or tendinitis. Conversely, sedentary occupations requiring little to no movement may also have a negative influence on health, through mechanisms such as impaired circulation or higher incidence of obesity.

Aspects of work organization – notably work scheduling – can greatly affect health. For example, working long hours or night shifts reduces sleep quality and quantity, leading to fatigue and chronic health problems. The combination of sleep deprivation and fatigue increases risk of injury at work, since the ability to focus on work tasks is reduced. Moreover, long or highly variable work schedules can disrupt healthy routines like the preparation and consumption of nutritious meals, or engagement in regular physical activity.

The effects of an individual's working hours not only affect the health behaviors of the individual, but their family as well.[3] Long workdays and working multiple jobs can reduce time available for family dinners, with some parents resorting to calorie-dense fast food and convenience foods to feed their families.[4] Furthermore, competing demands between work and family may often leave parents feeling stressed and exhausted, which can interfere with motivation and energy available for leisure time physical activity. Among low-wage employed parents, the ability to manage food choices is negatively impacted by stressful working conditions. In particular, low job security and satisfaction, as well as poor access to food at work, are related to more meals consumed outside the home and therefore, fewer family meals.[5]

Studies of employed African American women show associations between lack of time and low physical activity, as well as between stressful work and overeating.[6, 7] Findings have been attributed to multiple demands, not only those experienced in the workplace, but at home as well. Furthermore, these women have identified physical activity as something pursued by White women, demonstrating cultural differences in perception of physical activity.

Working long hours is also associated with high Body Mass Index (BMI) among transit workers, due to workers' food choices and accessibility to food at work.[7] These transit workers find it difficult to eat fruits and vegetables at work, and are more likely to consume food from vending machines. Since vending machines tend to be limited in providing healthy food options, workers may believe it is challenging to eat healthy at work.[7] Therefore, it is important to consider the food environment as an important determinant of overweight/obesity in the workplace.

Similar associations between long work hours and weight status have been found among nurses, a physically demanding occupation.[8] Nurses who work long shifts are more likely to be overweight or obese, with disrupted sleep patterns, poorer perceptions of health, and less physical activity.[8] Limited sleep (less than 6 hours per night), a common outcome for shift workers, has been correlated with changes in appetite/satiety regulation, metabolism, and insulin sensitivity, as well as a reduction in available energy to engage in physical activity.[8,9] As a result, long work hours and shift work contribute to the risk of overweight/obesity among nurses. However, these health outcomes have not only been linked to shift work and long work hours, but to job stress as well.[8]

Stress on the job is known to contribute to ill health by activating certain biological and behavioral responses. Workplace stress is caused by psychosocial conditions like high job demands and low "job control" (few opportunities for decision-making), both of which have been identified as risk factors for higher Body Mass Index.[3,10] Examples of documented health outcomes associated with job stress include cardiovascular disease morbidity and mortality, anxiety, and depression.[10] Less recognized is the influence of psychosocial stress on health behaviors and the risk of obesity.[10] In particular, stressful working conditions can influence food choices, eating patterns, and low levels of leisure-time physical activity. African American women who experienced job-related stress have reported overeating, late-night binges, and

increased fast food consumption.[6] Experiences of racism and sexism in the workplace have also been documented as contributing to emotional eating and weight gain.[11] Additionally, stressful working conditions may drive coping mechanisms like smoking, which can also lead to a variety of chronic illnesses.[3]

Physically demanding jobs can also pose a challenge for meeting the public health recommendations for physical activity. Data on levels of leisure-time physical activity and work-related physical activity indicate differences across race, ethnicity, and socioeconomic status.[12] In particular, lower levels of leisure-time physical activity were associated with education status, which was lower for Blacks and Hispanics compared to Whites. Occupational physical activity levels were greater among minority groups, suggesting that greater levels of physical activity at work may reduce engagement in leisure-time physical activity.[12] The role of physical fatigue is one possible mechanism for such a relationship.

Immigrant status is also associated with lower levels of leisure-time physical activity and higher BMI in Latinos.[13] This may be due to physically demanding employment, adaption to American culture and diet, and/or other factors. Latinos more frequently hold occupations that require physical labor, which are generally of lower socioeconomic status.[13] Given the diversity in the present workforce, it is important to consider the role of physical demands at work when promoting leisure-time physical activity for health benefits.

The food environment in the workplace can influence the types of food that workers consume during breaks. The nutritional quality of meals can depend on workers' accessibility to healthy foods and eating facilities on job sites. Obviously, food choices are impacted by many factors, including convenience, taste, cost, culture, and health status.[14] However, working conditions should not be overlooked. If the workplace has a designated break area with refrigeration and heating equipment for food, workers have the ability to bring prepared food from home. While some workers bring lunch from home, many tend to purchase lunch at least one or more times a week.[14] Common locations where food is purchased during lunchtime include fast-food restaurants, on-site cafeterias, grocery stores, and vending machines, especially for younger workers.[14] Consequently, workplaces can play an important role in supporting workers' dietary intake.

Background

There is very little scientific research addressing the role of work factors in the etiology of obesity, and even fewer studies have focused specifically on low-wage settings. The investigation described in this report came about as a result of a community partnership between the Massachusetts Coalition for Occupational Safety and Health (MassCOSH), an advocacy organization dedicated to promoting safe and healthy working conditions, and the University of Massachusetts Lowell, Center for the Promotion of Health in the New England Workplace (CPH-NEW), an academic research center. Community members and workers began approaching MassCOSH with stories about how their experiences in the workplace influenced their body weight. In parallel, CPH-NEW was conducting studies to understand the interplay between working conditions and health. Thus, both organizations found themselves facing parallel research questions, including how the work environment might affect diet and exercise, and how common such issues are among lower income workers.

Methodology

To investigate how low-wage workers experience their jobs in relation to leisure-time physical activity, eating patterns, and other behaviors related to body weight, a community-based, participatory research team was formed. The research team consisted of faculty, staff, and worker leaders from the Center for the Promotion of Health in the New England Workplace (CPH-NEW) at the University of Massachusetts Lowell, the Massachusetts Coalition for Occupational Safety and Health (MassCOSH), and the Boston Worker's Alliance (BWA).

Based on a review of existing academic literature and anecdotal information shared by Boston area workers, a focus group script was developed jointly by the research team. MassCOSH and BWA work largely with Latino/a worker and Black/African American populations respectively, so the materials utilized in the study were translated and back-translated between English and Spanish. University personnel trained worker leaders on focus group facilitation and the general research protocol, and worker leaders completed human subjects training through the NIH, as required by the University to assure the protection of human subjects during the research project. The UMass Lowell Institutional Review Board approved the project prior to data collection, and an informed consent protocol was followed with all participants.

Outreach workers from MassCOSH and BWA recruited participants from Boston, Lawrence, and Lynn, Massachusetts for the focus groups, with the assistance of focus group facilitators. The goal was to recruit a variety of individuals from multiple sectors of lower-wage employment to participate in the focus groups. A recruitment flyer was available in English and Spanish, and recruiters went to various community meetings to discuss the project. Individuals who were 18 years and older and employed in hourly work at least twenty or more hours per week in the past two years were eligible for participation in the focus groups. Participants were also compensated $20 for their contribution to the study.

"Lifting the mattress and tucking in the sheets over 240 times a day and bending down to clean up to 30 bathtubs causes us pain as we rush to clean 30 rooms."

- "Maria," housekeeper

Ninety percent of the hotel housekeepers, including Maria, took pain medication regularly for injuries they associated with work, making it possible for them to keep earning their living.

After taking the pain medication for several months, Maria found that her weight had dramatically increased.

A facilitator from either MassCOSH or BWA and a co-facilitator from the University led each focus group. A note-taker from the University also attended the focus groups and was responsible for digital recordings. The focus groups were scheduled during evening hours and weekends to avoid conflicts with participants' work schedules. Demographic data on gender, race, ethnicity, age, and job industry were collected voluntarily using a self-report form.

The script was designed to be covered in approximately 90 minutes. Workers were asked to discuss their experiences with either gaining weight or difficulty losing weight and how work played a role. Workers were also asked to report whether, in their own experience or that of someone they knew, work-related injury, illness, assault or verbal abuse had an impact on weight, eating patterns, and/or physical activities outside of the job. Workers had the opportunity to provide recommendations regarding ways employers could modify the work environment to support healthy behaviors, which allowed us to gain insight on the changes lower-wage workers desire. Additional suggestions were also sought regarding how local worker advocacy organizations can support and promote the changes suggested by workers.

"We suffered for years while our employer stole money from our wages and forced us to work in dangerous conditions. I was beaten up by my supervisor and my co-workers also faced physical and verbal abuses,"

- "Jose," employee at a warehouse of a large supermarket chain for 14 years.

Jose told MassCOSH that the injury he suffered from his assault caused him to become so depressed he needed to take medication. His wife too became depressed and took medication. Jose experienced weight gain and his wife became morbidly obese.

CODING AND ANALYSIS

Focus group recordings were transcribed, and facilitators and co-facilitators reviewed each focus group transcript for accuracy. Analysis of the transcripts consisted of compiling responses to each question posed by the research team. Line-by-line coding was performed to assist with the formulation of common themes among focus groups. Further analysis of the focus group transcripts to determine sub-themes was done using qualitative data analysis software, QSR NVivo [9]. The results of the focus group data were presented to the focus group facilitators and co-facilitators to ensure that the findings coincided with their experiences during focus groups and to determine if they noted other issues not included in the summary.

INTERVIEWS AND COMMUNITY MEETINGS

After the focus groups were completed, individual interviews were conducted with a convenience sample of four new participants to obtain a more detailed picture of workers' experiences in specific industries. The participants were identified and recruited for interviews by worker leaders from MassCOSH and BWA, and these leaders conducted the interviews in English and Spanish, as appropriate, in the spring of 2012. Results of these interviews are highlighted as case studies in the "Worker's Stories" section of this report.

The community organizations, MassCOSH and BWA, also held three stakeholder meetings in the same communities where the focus group participants had been recruited. The goal was to disseminate preliminary results for discussion, and to ascertain their implications for community members and leaders. Approximately 25 additional Latina/o and African American workers participated in these conversations. Some of the topics discussed at the stakeholder meetings informed the "Recommendations" and "Workers' Suggestions" sections of the report.

Results

Eight semi-structured focus groups were conducted between July and October 2011. Each lasted about 90 minutes. Six of the focus groups were conducted in Spanish, while the remaining two were in English. A total of 63 low-wage workers participated from various industries (65% female, 35% male). The findings are summarized in this section, along with the results of four in-depth interviews. The major themes and sub-themes are highlighted below and developed in further detail on subsequent pages:

- Workers reported feelings of exhaustion, having multiple jobs and responsibilities, and scheduling as elements of a heavy workload. Food was often used as a coping strategy to combat stress.
- Having a physically demanding job often resulted in illnesses and/or injuries, influencing workers' ability to participate in leisure-time physical activity.
- Exposure to job stressors (such as high demands) led some workers consume more high-calorie foods, such as candy and soda.
- In restaurants, supervisors often decide the timing and length of meal breaks from day to day. Irregular meal schedules and/or dictated breaks created anxiety about when one would be able to eat.
- Many workers reported having only 15 minutes to eat throughout their work schedule, making it more difficult to prepare and eat healthy food.
- Workers reported having limited access to healthy food.
- Many workplaces fail to provide workers with the appropriate equipment and space to eat meals, influencing workers' diet.
- Female workers often discussed the interaction between work and family, specifically how the combination of responsibilities at work and at home reduced available time to engage in physical activity and eat healthy. For these workers, reliance on convenience foods was a particularly important time-saving strategy.
- Latino workers described low social support and its effect on overall health more frequently than Black and African American workers did.

THEMES

Four primary themes were identified during the coding process to represent lower-wage workers' experiences in their jobs and workplaces and its relation to leisure-time physical activity, eating habits, and other behaviors associated with body weight. Quotes from the workers were selected by the investigators to illustrate each overall theme and component sub-theme.

1. Physically demanding work

The consequences of working a job that requires substantial physical exertion were frequently discussed throughout the focus groups. For these workers, physical demands and hazards were often associated with some form of illness and/or injury.

> ***"A friend of mine [construction]...a cinder block dropped on her foot…It broke her foot...She was very active. Now she can't do the jobs that she would normally do...depression set in..."***
>
> ***"In housekeeping, we move way too much…my arm is sore and it hurts."***
>
> ***"....He had to vacuum a lot, and had problems with his shoulder. He ate more because he was anxious he would lose his job…..he couldn't work as fast…"***

Working a physically demanding job made it challenging for workers to exercise or engage in leisure-time physical activity at the end of a long workday.

> ***"I don't have the desire to do exercise after standing for 15-16 hours. I just want to eat and sleep. The next day is the same thing all over again."***
>
> ***"You come home and you are so tired that you either don't want to eat, or you want to eat a lot."***

2. Psychosocial stressors

Workers described job stressors associated with the mental and social aspects of their work, including high demands, low control, and low levels of social support. These psychosocial stressors have an impact on the quantity and pace at which foods are consumed, in addition to their negative effects on overall health.

"The work that three people used to do is given to one person. That creates more stress and eating more…"

"You think about deadlines and what you have to get done, so I don't utilize the full lunch hour to eat the healthiest meal."

Those with low control in the workplace stressed the importance of keeping their job, which often resulted in having less time to eat at work.

"Working in factories, you have to eat fast or you get fired."

"…we had too much work so we didn't have time for lunch. I needed the job…sometimes I worked 10 or 12 hours…when I got home I ate fast food…"

Workers also reported experiences of conflict between co-workers or a poor relationship with their supervisor. Having low social support at work not only created more stress for these workers, but also increased feelings of anxiety, which, in many cases, led to consuming more food.

"…he [the supervisor] yelled at me and it gave me anxiety and I would eat more."

"A lot of harassment…it was really stressful so the depression really set in."

3. Time pressure

Workers expressed challenges related to time available for maintaining a healthy diet and incorporating physical activity into their daily routines. In particular, work schedules and break times influenced workers' eating patterns.

"At 10:00 a.m., they give me a 15-minute break. I don't have time to eat healthy food, even if I bring homemade food. I don't have time to do exercise."

"People that work the night shift don't have a schedule for eating…a woman from work would say, 'I gained weight because I eat at night.'"

Having multiple jobs and responsibilities had a major impact on whether some workers had time to incorporate healthy behaviors, specifically in terms of food choice.

"Once you get home, you have to clean the house, do the laundry, and get the kids ready. Your job is not done. By the time you get time for you, it's time to take care of your jobs all over again."

"Rushing to the next job and wanting something quick…I buy a donut and coffee to help keep me awake…"

4. Food environment at work

Workers discussed the physical aspects of the workplace that affect their options for food, which were also influenced by the resources accessible to workers. When reporting available food choices, workers said,

"Food from vending machines...soda. When we don't have time to eat, we eat crackers or chocolate."

"They only have chicken fingers, hamburgers, and potato chips…it's all the same food everyday…"

Workers also expressed the lack of adequate eating facilities in the workplace, many reporting little to no equipment (refrigerator, microwave, etc.) to eat meals brought from home.

"I don't have a microwave to heat up my food. I have to eat my food cold…"

"Many factories only have 1 or 2 microwaves, even though there are a lot of employees."

Other workers stated either they had no space to eat their meals, or the designated break area was not maintained or clean.

"I cannot even talk about the cafeteria because that 'cafeteria' is in a corner of a dirty and unsanitary room."

"I worked in a restaurant…there was no place to sit and eat…we would munch and move around."

WORKER'S STORIES

In-depth interviews were conducted with four individuals to further investigate how working conditions affect weight status among low-income workers. The following summaries support the findings of our focus group research and further describe workplace factors that affect workers' weight and their ability to sustain a healthy diet and engage in physical activity.

Christina
Janitor

Christina starts her day by making breakfast and preparing her lunch to bring to work. She spends about an hour and half on the train in the morning to get to work. She has about 30 minutes to eat lunch, typically eating salads, eggs, beans, meat, or chicken. By the time Christina gets home from work, it is about 12:00am. She drinks a glass of milk when she gets home and goes to bed. She says she doesn't exercise because she doesn't have time and feels tired from working.

After being in the U.S. for three years, Christina has noticed that she has gained weight. She says, "I think it's from stress, and I've suffered from several illnesses since being in this country." She's had thyroid problems, high cholesterol, depression and anxiety, which she attributes to stress from work. Her supervisor was verbally abusive, threatening Christina with termination.

Christina injured her foot on the job, which resulted in more stress at work, due to the limitations posed by her injury. This also limited her ability to exercise, making her gain weight. The combination of verbal abuse at work and sustaining an injury has made Christina anxious and depressed. She has to take medication to manage the depression, which is difficult to do on time because of her work schedule. Her work schedule also affects her eating patterns, limiting her to two meals a day.

After Christina gained weight, her supervisor continued to be verbally abusive in front of others at work, saying, "People that are fat don't last very long at work."

Juan
Construction Worker

Juan wakes up around 5:00 in the morning to get prepared for work, leaving by 6:00am to arrive to work on time at 7:00. It takes Juan an hour to get to work, since he has to catch a bus, or sometimes two buses and a train. At work, Juan does framing and sheetrock, and sometimes works up to 6 days a week to finish when behind at work. He can work up to 50 hours a week.

Juan says they have lunch at 3:00 in the afternoon, but if they are in hurry at work, they are not allowed to stop to eat. Since there is a lot of dust on the job site, it often takes away his appetite and he leaves work feeling very tired in the afternoon. If Juan looks tired while working, his boss puts pressure on him to work faster.

When he has the opportunity to take a break, Juan spends 20-30 minutes eating lunch. However, Juan does not bring food prepared from home because there is nowhere to heat it up. He eats what is closest to the job site, which is often fast food. Juan says, “We go eat a pizza or if there’s a Dunkin Donuts, we drink a coffee, eat a donut to calm the hunger and keep going.”

By the time Juan gets home from work, it is usually 6:00 or 6:30pm. He eats dinner at about 7:00pm, either eating eggs or buying fast food for dinner if he is tired. Since transitioning to the U.S. and working in construction, Juan has gained weight. He believes he has gained weight because of eating fast food and not being able to exercise, due to an injury from work. Juan has had to take pain medication for his injury and has become depressed. Working hard and earning low wages has also contributed to Juan’s depression.

Juan was also diagnosed with cancer, which he believes may be from dust or chemicals at work. Thankfully, his cancer is in remission, but he has respiratory problems. His doctor also believes it is from exposure to dust at work, even though he has always worn a mask on the job. Living with this respiratory problem has been difficult for Juan. He says, “Sometimes my weight goes up, sometimes it goes down…I don’t know if it’s from the medicine, or eating fast food…” Also, Juan has felt depressed because of his illness, especially because he has to use a nebulizer and sometimes an oxygen tank to help him breathe.

Darlene
Human Service Outreach Worker

Darlene wakes at 7:00am to dress and have a cup of coffee while getting her two children ready for school; she then leaves her house around 8:30am to hurry off to the office, which is 20 minutes away from where she lives. She works at a woman's drop-in center and her days are usually filled with conducting workshops, doing street outreach, and meeting with women who drop in the center throughout the day from off the street. Darlene supports, educates, and trains the women on reducing risks associated with safety, reproductive health, sexual health, tobacco, breast health, and other health topics. This schedule leaves little time for her to incorporate breaks. The fast pace and constant attention to other people's needs consumes her time at work.

Darlene says, "Because there are only fast food restaurants nearby the center, I do not have much choice to eat healthily. When I do have time for a break, I grab something quick because once I get to work I am constantly catering to other people's needs".

Around 5-5:30pm, Darlene says, she is "tired from a long day of meeting other people's needs." Once she leaves the center, Darlene then picks up her children from the after- school program and heads home. Because Darlene does not make much money, she finds it a challenge to cook full meals for her and her family on a daily basis. Cooking and eating nutritiously can be expensive; she buys what she can afford, not so much what is healthiest.

Darlene believes her weight gain and hypertension are connected to her eating habits. Eating better is challenging for her due to a fast-paced work environment and lack of money to afford healthier foods. Her co-workers have the same eating habits (grabbing something convenient). This also creates a barrier to breaking bad eating habits, because it is not a supportive environment.

Although walking daily during street outreach provides low-impact exercise, without the support of eating the right foods this is not enough. Darlene has difficulty with breaking this cycle of eating fast foods and other non-nutritional foods, due to convenience and affordability.

Evangeline
Human Service Outreach Worker/Case Manager

Evangeline typically wakes at 6:30am to watch the weather channel. She leaves her house around 7:30am to hurry off to her client appointments. Her usual day consists of meeting clients who live anywhere from 15 minutes to an hour away within the state of Massachusetts. Evangeline escorts her clients to and from their medical appointments. However, this daily caseload and hectic travel schedule leaves little time for lunch breaks that include healthy choices.

Evangeline says, “There are lots of fast food restaurants when traveling on the road and most of them do not have many choices to eat healthy. When I occasionally have time for a lunch break, I grab something quick because I am always rushing to get to the next appointment.”

At the end of the day, around 6:00-6:30pm, Evangeline says she is tired from a long day of driving to and from appointments. She supports her daughter by picking up her grandchild from school and then drops off the child at home, with hardly any time to cook dinner when she gets home. She will stop at the local grocery store to grab a frozen dinner before going to bed. After a period of eating fast foods regularly, she has begun to gain weight. Although she attempts to eat yogurt or a trail mix bar to help get through the middle of the day, fast foods are more convenient and filling with a hectic work schedule.

Evangeline states she has difficulty with breaking this cycle of eating fast foods when on the road a lot, and does not have many options to change this habit.

Recommendations

To enhance the working conditions reported by lower-wage workers in the study, the following recommendations are aimed at employers, policy-makers and stakeholders:

Recommendations for Employers:

Breaks and Meals

- Allow sufficient time for breaks and meals; provide the state-mandated 30 minutes consecutively, as a single break.
- Support daily communication of rest and meal break times to employees, to reduce anxiety about hunger and to facilitate healthy meal planning.
- Provide a clean space for eating, with sufficient functional equipment (refrigerator, microwave) for the number of employees on site.

Workload and Scheduling

- Determine physical workloads that are moderate enough to avoid excessive fatigue and risk of injury.
- Institute health and safety programs that identify and reduce or eliminate ergonomic hazards.
- Involve workers in scheduling decisions for shift work and overtime to promote family balance and mental health.

Other

- Encourage supportive supervisory and management styles.
- Promote programs that identify and eliminate bullying and sexual harassment.
- Select group health coverage and third party service contractors that address working conditions and are sensitive to the needs of low-wage workers.
- Establish worker-management committees that incorporate health, safety, and wellness.

Recommendations for Government and Public Policy-makers:

- Address working conditions as part of workplace obesity or “wellness” programs.
- When developing employer tools and resources for promoting employee health, include recommendations and strategies for addressing working conditions that affect health.
- Include occupational health experts in obesity reduction and other wellness advisory councils.

- Increase funding for applied research on the impact of improved working conditions and meal policies on obesity reduction.
- Routinely incorporate information about occupation and industry in the Behavioral Risk Factor Surveillance Survey (BRFSS) and report on patterns of obesity by industry, occupation, and other demographic characteristics
- Develop and implement a state-specific BRFSS module to collect additional information on working conditions related to diet and exercise behaviors.

Recommendations for Insurance Companies

- Establish insurance rate reduction programs for employers that improve workplace health and safety. Extend these benefits to employers who make work environment improvements that affect obesity.
- Track participation in Worksite Health Promotion by job type; Use this data to identify and address potential barriers to participation for low-wage workers.

Recommendations for Funders

- Increase funding for intervention research on the impact of improved working conditions and meal policies on obesity reduction, especially among low-income workers.
- Promote funding for employer and worker initiatives that contribute to the improvement of working conditions to support good nutrition, physical activity, and psychosocially strong workplaces.

Recommendations for Unions and Worker Groups

- Educate workers about the impact of working conditions on weight, and engage them in participatory programs to increase the health status of lower income workers.
- Establish union health and safety committees that integrate issues related to weight and wellness.

Workers' Suggestions

During our focus groups and stakeholder meetings, we asked workers to provide input on ways employers can support their efforts to maintain or achieve a healthy weight. Many of the suggestions are mentioned in the "Recommendations" section; however, the suggestions below were unique contributions, and it was deemed necessary to include them. Workers were also asked for advice on how worker advocacy organizations or public policy-makers can assist them in promoting these changes. Overall, it was notable that the workers perceived themselves to have little power or influence over these rather fundamental workplace health issues.

The following represents a summary of workers' suggestions:

- Motivate employer action by developing a "business case" to illustrate the significant costs (tangible and intangible) of having an overweight/obese lower-income workforce.
- Offer a living wage to make lives less stressful.
- Create a healthy worksite certification for employers and subsidize healthy foods in the workplace with tax incentives for employers to promote employee wellness.

Conclusions

Workers described direct experiences with many of the pathways cited in the literature (physical, psychological, and behavioral).

- Physical and psychosocial features of work were identified as important antecedents for overweight.
- In particular, non-traditional work shifts and working multiple jobs limit workers' ability to adhere to public health recommendations for diet and physical activity.
- Latino/a and Afro-American workers generally reported similar issues.
- Qualitative methods provided valuable information about obstacles to healthy "lifestyle" choices.
- Workers in all groups perceived themselves to be powerless to improve the conditions that negatively influence health.

Programs to address obesity in lower-wage workers must include the work environment as a fundamental starting point:

  - Work organization, work scheduling, physical demands, and psychosocial stressors.
  - Policies for mealtime and rest breaks.
  - Clean, adequately equipped eating facilities.
  - Strong health and safety protections.

APPENDIX

Focus Group Demographics

Faculty, staff, and worker leaders from the Center for the Promotion of Health in the New England Workplace (CPH-NEW) at the University of Massachusetts Lowell, the Massachusetts Coalition for Occupational Safety and Health (MassCOSH), and the Boston Worker's Alliance (BWA) coordinated and facilitated the focus groups. A total of 8 focus groups (2 English-speaking, 6 Spanish-speaking) were conducted with 63 lower-wage workers in the Greater Boston area.

TABLE: Characteristics of Lower-Wage Workers in Focus Groups

	Percent of Sample		**Percent of Sample**
Gender			
Male	35%	Female	65%
Race			
American Indian/Native Alaskan	13%	Black or African American	22%
White/Caucasian	30%	Unknown	35%
Ethnicity			
Hispanic or Latino	83%	Non-Hispanic	14%
Unknown	3%		
Age			
18-24	5%	45-54	25%
25-34	33%	55-64	13%
35-44	21%	65-74	2%
Industries			
Housekeeping/cleaning	17%	Healthcare/human services	21%
Restaurant/food service	22%	Manufacturing	13%
Construction	13%	Other*	22%

*business owner, community organizer, daycare, delivery driver, educational advisor, office work, sales, seamstress

Endnotes

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