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Occupational Exposures and Health Outcomes Among Latina Hotel Cleaners

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The poor working conditions of Latina hotel cleaners render them particularly vulnerable to elevated occupational hazards that lead to adverse health outcomes. This article presents a comprehensive review of occupational risks (including physical, chemical, biological, and psychosocial risk factors) and health outcomes (including musculoskeletal disorders, respiratory diseases, dermatological diseases and allergies, and psychological disorders) for Latina hotel cleaners, within their unique sociocultural contexts. Preventive interventions for improving Latina hotel cleaners' work and health conditions are recommended.

Las condiciones de trabajo malas de las limpiadoras de hotel Latinas las hacen particularmente vulnerables a elevados riesgos laborales que conducen a resultados de salud adversos. Este articulo presenta una revisión integral de los riesgos laborales (incluyendo los factores de riesgo físicos, químicos, biológicos y psicosociales) y los resultados de salud (incluyendo trastornos musculoesqueléticos, enfermedades respiratorias, enfermedades y alergias dermatológicas y desórdenes psicológicos) entre las limpiadoras de hotel Latinas, tomando en cuenta sus contextos socioculturales excepcionales. Se recomiendan intervenciones preventivas para mejorar las condiciones de trabajo y salud de las limpiadoras de hotel Latinas.

Keywords: Latinas; hotel cleaners; occupational health; disparities; occupational hazards

Hospitality and tourism represent the largest economic sector in the world, and in the United States alone, support 14.3 million jobs (World Travel and Tourism Council [WTTC], 2012). Latino workers represent more than 22% of the workforce in the hotel and accommodation industry, as compared to 14.6% of the overall workforce (National Council of La Raza [NCLR], 2011). The hotel and accommodation industry employed approximately 561,000 Latinos in 2010, and more than half of them were women, whereas 41% of them worked as hotel cleaners (NCLR, 2011). Latina hotel cleaners often work in poor conditions, including long hours, poor pay, lack of benefits, high job insecurity, low job control, ergonomic strains, chemical exposures, and a wide variety of other physical and mental health risks (National Institute for Occupational Safety and Health [NIOSH], 2012; UNITE HERE, 2006). Moreover, their socioeconomic background, immigration status, lack of English proficiency, and limited or no access to either private or publicly funded health care put them at increased risk of poor health. Empirical evidence reveals that Latina hotel cleaners have an injury rate of 10.6%—nearly twice the rate of non-Latino hotel cleaners (Buchanan et al., 2010). Latina hotel cleaners' adverse work conditions render them particularly vulnerable to elevated occupational hazards that may, in turn, lead to adverse health outcomes. In this article, we present a comprehensive review of studies of the general health of Latino workers and hotel cleaners in particular to underscore how occupational exposures can trigger, exacerbate, or sustain adverse safety and health outcomes among Latina hotel cleaners in the United States, taking into account their unique sociocultural contexts.

Sociocultural Factors Influencing Latina Occupational Health

Preventable health disparities for Latinos are a national public health concern, as well as a primary objective of the 2020 Developing Healthy People Initiative

(Campbell, Garcia, Granillo, & Chavez, 2012). Latina hotel cleaners endure numerous coexisting sociocultural exposures with potential to adversely influence their health. Sociocultural exposures are sociocultural factors experienced by Latina workers such as social status, values, culture, and languages (Aguirre-Molina, Abesamis, & Castro, 2003). These exposures, along with other individual contextual factors and unique personal experiences, help formulate the lens through which Latinas perceive the world around them, learn how to navigate their way around, and decide whether or not to seek health care (Aguirre-Molina et al., 2003).

Latinas immigrating into the United States undergo a difficult, multifaceted, and often lengthy behavior- and attitude-adjustment process. This process is associated with multiple stressors such as loss of social support, changes to identity, changes in values and family conflicts, and culture shock (Gallo, Penedo, Monteros, & Arguelles, 2009). Many studies have been dedicated to understanding acculturation, the process of assimilating to the new host culture. Acculturation has been associated with both positive and negative health outcomes, depending on which aspect of health is measured. It has received a lot of negative commentary recently because of its unidimensional nature, lack of sound theory and validity, and the wide use of proxy measures (Thomson & Hoffman-Goetz, 2009). Thus, acculturation is not a simplistic linear or even necessarily a useful concept when trying to understand immigrant health.

Immigrants' beliefs in certain health areas are shaped by the "interrelationship between individual and community values, and personal experiences" (Villar, Concha, & Zamith, 2012, p. 888). To better understand Latinas' social determinants of health, research foci need to move from acculturation—the individualistic cultural explanation for health—to an extensive analysis of multiple intersecting structural inequalities (Viruell-Fuentes, Miranda, & Abdulrahim, 2012) using only within-ethnic group comparisons (Krieger, 2010). Although such an analysis is beyond the scope of this review, it is important to bear in mind the need for further investigation of structural inequalities as well as the heterogeneity of the ethnic subgroups within the category "Latino" (Gallo et al., 2009).

Latinos have the least educational attainment among all racial and ethnic groups in the United States. (U.S. Department of Labor, 2012), resulting in disproportionately low socioeconomic status and much higher unemployment rates compared to their non-Latino counterparts (U.S. Department of Labor, 2012). These factors, along with a low English proficiency, a poor living environment, and low-wage jobs, have the potential to critically affect their health and well-being. Moreover, undocumented Latinos tend to suffer even more severely in socioeconomic spheres because of residential instability and harsher work conditions along with the constant fear of deportation (Cervantes, Mejia, & Mena, 2010). Each accumulated factor further exacerbates possible negative influences on Latinos' health (Acosta-Leon, Grote, Salem, & Daraiseh, 2006).

With immigration policies constantly in debate, anti-immigrant sentiments continue to grow, creating even higher rates of discrimination and stigmatization against Latinos (Gallo et al., 2009). "Racism reliably produces and reproduces social and economic inequalities along racial and ethnic lines, and as such, it is a fundamental cause of disease" (Viruell-Fuentes et al., 2012, p. 2100).

Latinos share cultural values about family, gender, and religion that are likely to influence their health, although research is not conclusive on the actual effects of such values (Aguirre-Molina et al., 2003). Particularly among Latinas, the needs of the family are generally viewed above those of the individual (Gallo et al., 2009), as members tend to place their needs aside to focus on the rest of their family (Rodriguez, Mira, Paez, & Myers, 2007). At the same time, a strong family network can be beneficial to one's health, facilitating healthier behavioral patterns, and greater chances of seeking care (Aguirre-Molina et al., 2003). Female gender role attributes of Latinas include passivity and dependence (Mendoza, 2009), whereas male gender roles can promote better health because of the necessity for good health to continue providing for their family (Gallo et al., 2009); however, male gender roles can also promote negative health outcomes through high-risk activity involving substance use and promiscuity (D'Alonzo, 2012).

Higher levels of religiosity among Latinas appear to be beneficial to mental and physical health (Gallo et al., 2009), especially when religious networks and support systems are used as coping mechanisms for stress (Dunn & O'Brien, 2009) and as a source for health advice (Sanchez-Birkhead, Kennedy, Callister, & Miyamoto, 2011). The more Latinas are involved with their community, the more they experience increased social support and the better their overall health (Campbell et al., 2012). On the other hand, many immigrant Latinas may lack the social support they were accustomed to at home, which can be detrimental to health and may cause hesitation in seeking care alone (Sanchez-Birkhead et al., 2011).

Social marginalization and language barriers can obstruct access and knowledge of health care resources and available public services (Gallo et al., 2009). When care is sought, health care providers often do not provide the necessary personal connection through culturally competent care that most Latinas seek (Sanchez-Birkhead et al., 2011). Even worse, Latinas regularly report perceived discrimination from health care professionals, which is likely to inhibit future health-seeking behaviors (Sanchez-Birkhead et al., 2011).

Occupational health is a significant issue for Latinos and Latinas because of their precarious social position (Quinn et al., 2007). Because of limited opportunities, Latinos regularly accept highly physical, stressful, and low-wage jobs (Brown, Domenzain, & Villoria-Siegert, 2002). Other factors affecting Latino occupational health include lack of insurance, inadequate knowledge of their

rights, reluctance to speak up in the face of unfair treatment or about hazardous conditions, discrimination, little to no proper safety training or materials provided in Spanish (Krieger, 2010), lack of education, language barriers (Acosta-Leon et al., 2006), and exposure to multiple simultaneous occupational hazards (Quinn et al., 2007). Cultural barriers are also frequently a problem as Latinos may believe injuries are an expected part of the jobs (Acosta-Leon et al., 2006). Taking these factors into consideration, many employers find hiring vulnerable immigrants who are essentially powerless to be advantageous (Krieger, 2010). Latinos experience the highest on-the-job accident rates (Acosta-Leon et al., 2006), with construction workers in particular having the highest rates of fatal injury when compared to all other ethnic groups (Roelofs, Sprague-Martinez, Brunette, & Azaroff, 2011). Hotel workers averaged approximately 32 on-the-job fatalities per year, or 0.002 fatalities per 100 full-time workers, since 1992, which is lower than the rate for the U.S. private sector as a whole. Nevertheless, hotel workers experience a higher occupational injury rate (8.9 injuries per 100 full-time workers) than the rate for the overall U.S. private sector (7.0 injuries per 100 full-time workers; Bureau of Labor Statistics [BLS], 2012a). According to Buchanan and her colleagues' (2010) study of housekeeper injury records from 50 hotels operated by top five hotel companies for the period 2003 to 2005, Latina housekeepers had acute traumas and the highest injury rate and highest rate of musculoskeletal disorders among their non-Latina counterparts. They suffered more injuries than other female housekeepers (Buchanan et al., 2010).

Latinas in the Hotel Industry

Hotel cleaning requires minimal education and low skills, thus attracting migrant and immigrant populations, including Latinos. The 2012 Current Population Survey from the Bureau of Labor Statistics indicates that Latinos are overrepresented as housekeepers and room cleaners, accounting for 43.3% of total employed persons. This is way more than other ethnic groups (BLS, 2012b). Most of Latino hotel cleaners in the United States are women, who perform physically demanding cleaning tasks, earn annual salaries at or below the poverty level ($22,350), and struggle to make ends meet (BLS, 2011). In urban areas with little or no labor law enforcement, budget-concerned hotel employers oftentimes hire undocumented Latinas and compensate them under the table and off the books with a rate even lower than the minimum wage (Brown et al., 2002).

Like those of non-Latino hotel cleaners, the job duties of Latina hotel cleaners are to perform guestroom cleaning on 8-hour shifts, 5 days per week. On average, a Latina hotel cleaner is assigned to clean 12 to 16 rooms per shift (Powell & Watson, 2006). The tasks that they perform include pushing heavy trolleys filled with cleaning supplies and linens, moving heavy furniture, bending constantly to make beds and tuck in sheets, cleaning bathrooms, vacuuming, and dusting. In many situations, they are forced to take awkward positions and stretches, often leading to back and shoulder pain. A report from the Canadian Center for Occupational Health and Safety (CCOHS, n.d.) indicates that a hotel cleaner changes his or her body position every 3 seconds while cleaning a guestroom, yielding 8,000 different body postures per shift. Latina hotel cleaners in particular have the highest rate of occupational injuries (10.6%), making them twice as likely to get injured, compared with their non-Latina counterparts (Buchanan et al., 2010).

Accepting the lowest paying jobs in the hotel and performing the so-called "dirty" cleaning tasks place Latina hotel cleaners at the bottom of the organizational ladder. The language barrier and frequent lack of familiarity with the local culture oftentimes make these workers the target of workplace discrimination (Brown et al., 2002). Their struggles are further exacerbated by the pain and injury that they suffer as a consequence of abusive work conditions (Premji & Krause, 2010).

Based on the literature review, no studies have specifically used Latina hotel cleaners as the subject of study. Very few studies have addressed the occupational health of hotel cleaners in general (e.g., Buchanan et al., 2010; Burgel, White, Gillen, & Krause, 2010; Krause et al., 2002; Krause, Rugulies, & Maslach, 2010; Krause, Scherzer, & Rugulies, 2005; Landers & Maguire, 2004; Lee & Krause, 2002; Liladrie, 2010; Lundberg & Karlsson, 2011). The summary of the occupational risks specifically relevant to Latina hotel cleaners is thus constrained to cleaners in general. Because Latinas dominate the hotel cleaner population and perform the same or similar tasks as non-Latina hotel cleaners, it is a logical assumption that Latina hotel cleaners are exposed to similar risks as those experienced by other hotel cleaners. Because of the lack of studies on Latina hotel cleaners, the following two sections (discussing the potential risks and adverse health consequences) summarize the main findings from hotel cleaners to serve as a reference for Latina hotel cleaners.

Cleaning Hotel Rooms: Work Environment and Risks

Hotel cleaners are exposed to risks that can be physical, chemical, biological, and psychosocial in nature. Table 1 summarizes these occupational risk factors faced by hotel cleaners.

Physical Risk Factors

Hotel cleaning involves physically demanding tasks and requires manual labor, such as lifting, lowering, pushing,

TABLE 1. Occupational Risk Factors of Hotel Cleaning

Type of Risk Factors	Examples of Risk Factors
Physical risk factors	Repetitive movement
	Lack of ergonomic equipment
	Luxury guestrooms (oversized mattresses, opulent linens)
Chemical risk factors	Cleaning products
	Latex gloves
Biological risk factors	Broken glassware
	Used hypodermic needles
	Contaminated waste
	Human excreta
	Mold/microbial contaminants
Psychosocial risk factors	Work stress
	Low control of works
	Lack of supervisor or coworker support
	Lack of respect
	Lack of recognition
	Lack of promotion prospects
	Harassment/violence/bullying
	Discrimination

pulling, carrying, holding, and dragging, which can result in wear and tear on the back and spine (Waddell & Burton, 2001). Accumulated evidence supports that 80% of back injuries are caused by lifting and push/pull activities (Guo et al., 1995), which are fundamental tasks of hotel guestroom cleaning. In addition, hotel cleaning tasks require repeated forward trunk flexion, extension and rotation, use of muscle strength, bent and twisted work postures, and overexertion of the body that can lead to work-related injuries (Landers & Maguire, 2004). If work tasks are not performed carefully, cleaning bathrooms can easily lead to a slip or fall on a wet floor. Considering the cleaning of the high room quota—of 12 to 16 rooms per day—cleaners are forced to rush to finish their tasks on time, putting them at a high risk of physical injury. The physical risks to which hotel cleaners are exposed are multiplied by the (a) poor ergonomic design of cleaning equipment (e.g., old-fashioned, manually propelled carts that are difficult to maneuver and vacuum cleaners that are too heavy or difficult to operate); (b) addition of oversized mattresses, opulent linens, and upgraded amenities to capture high-income market segments; and (c) poor floor layout and work organization that require hotel cleaners to take additional trips to restock their carts or to travel to different buildings or floors to perform their work duties (Esbenshade et al., 2006; Liladrie, 2010; Seifert & Messing, 2006). These work conditions collectively exacerbate such physical hazards. In a study involving 765 Las Vegas hotel cleaners, high physical workload, work intensification, and a high number of ergonomic problems were strongly associated with shoulder pain suffered by hotel cleaners (Krause et al., 2005).

Chemical Risk Factors

Hotel cleaners are potentially exposed to a wide variety of hazardous chemicals; traditional (nonenvironmentally safe) cleaning products, such as glass cleaner, toilet bowl cleaner, metal polish, and disinfectants, contain industrial-strength solvents that are potentially harmful to humans (Zock, 2005). Hotel cleaners have often reported the outbreak of rashes because of the harsh chemicals used on linens (Liladrie, 2010). Those solvents pose many hazards from mild health effects, such as skin and eye irritation, to long-term diseases, such as asthma, heart and kidney failure, sterility, or even cancer (Lee, 1998).

Biological Risk Factors

Biological hazards are infectious agents, such as bacteria, viruses, fungi, or parasites, which may be transmitted via contact with infected people or contaminated objects, body secretions, tissue, or fluids (Occupational Safety and Health Administration [OSHA], n.d.). While cleaning, hotel cleaners are potentially exposed to biological agents that are contaminated with germs through such means as broken glassware, contaminated needles, and other medical waste left by guests, human excretions, mold and microbial contaminants, any of which can make hotel cleaners ill or infect them with hepatitis B and HIV/AIDS (European Agency for Safety and Health at Work [EU-OSHA], 2009).

Psychosocial Risk Factors

Work psychosocial hazards are those aspects of the job design and management and its social and organizational contexts (Cox & Griffiths, 2005). The World Health Organization has identified 10 key risk factors related to psychosocial hazards at work (Leka, Griffiths, & Cox, 2003). Of these factors, 9 are consistently present in the hotel cleaning job description, including (a) job content: lack of variety, high uncertainty; (b) workload and work pace: work overload, high levels of time pressure; (c) work schedule: inflexible work schedule, long hours; (d) work control: low participation in decision making, minimal control over workload; (e) environment and equipment: inadequate availability of equipment; (f) organizational culture and function: poor communication, low levels of support for problem solving and personal development (Krause et al., 2002; Krause et al., 2010); (g) interpersonal relationships at work: social or physical isolation, poor relationship with superiors, lack of social support,

discrimination, bullying, harassment (Krause et al., 2002, Lundberg & Karlsson, 2011); (h) career development: poor pay, job insecurity, low social value to work, lack of advancement opportunities (Burgel et al., 2010); and (i) home/work interface: conflicting demands between work and home, as high work-induced physical demands exhaust hotel cleaners and adversely affect their family lives (Krause et al., 2005; Wial & Rickert, 2002). Moreover, the culture and language barriers encountered by Latina hotel cleaners complicate the psychosocial hazards endured by this underserved population. Language and communication problems, along with the lack of understanding of the local culture, often make Latina hotel cleaners the target of workplace bullying and discrimination (Brown et al., 2002; EU-OSHA, n.d.). Continued exposure to these psychosocial risks can jeopardize their safety, health, well-being, and work performance.

Adverse Consequences for the Health of Latina Hotel Cleaners

Musculoskeletal Disorders

Work-related musculoskeletal disorders comprise a wide range of inflammatory and degenerative diseases and conditions that can result in pain and functional impairment affecting the neck, shoulders, elbows, wrists, and hands (Buckle & Devereux, 2002). Carpal tunnel syndrome, tendonitis, thoracic outlet syndrome, and tension neck syndrome are typical examples. Employees suffering work-related musculoskeletal disorders experience body pain (e.g., low back pain, neck pain, shoulder disorders) or consequent disability, disruption in work productivity and quality, and elevated sick leave and health care costs (Woods & Buckle, 2006). Work-related musculoskeletal disorders cost industries in the United States more than $13 billion per year (NIOSH, 2012). Hotel cleaners are more likely than other workers to suffer repetitive-motion injuries and are susceptible to an assortment of musculoskeletal injuries. About 73% of hotel cleaners in San Francisco experienced pain severe enough that they were required to visit a physician and 53% of them needed to take time off (Lee & Krause, 2002). Another study conducted in Los Angeles, Boston, and Toronto hotels indicates that 91% of hotel cleaners reported physical pain associated with their work, 86% of whom reported that this pain started after being hired in the specific position (Liladrie, 2010). In a study of Las Vegas hotel cleaners, 75% of respondents experienced work-related pain 1 year prior to the survey, 94% reported that the pain began on their current job, 61% had visited a doctor for the pain, and 57% used any available sick or vacation time because of the pain (Krause et al., 2005). Studies of hotel cleaners have consistently indicated that they are more likely to report pain in their shoulders, hands, neck, and upper and lower back (Krause et al., 2005; UNITE HERE, 2006). The physical pain caused by heavy workloads can even interfere with their routine activities, and some even have to take pain medication on a regular basis (Liladrie, 2010).

Respiratory Diseases

Many cleaning products contain hazardous chemicals that emit a high level of volatile organic compounds (VOCs) that are associated with eye, nose, and throat irritation; headaches; loss of coordination; nausea; and even damage to the liver, kidney, and central nervous system (U.S. Environmental Protection Agency [EPA], n.d.). Some VOCs contribute to chronic respiratory problems and allergic reactions (Nazaroff & Weschler, 2004). Studies have established links between exposure to cleaning product chemicals and occupational asthma and other respiratory illnesses (Arif, Delclos, Whitehead, Tortolero, & Lee, 2003; Charles, Loomis, & Demissie, 2009; Karjalainen, Martikainen, Karjalainen, Klaukka, & Kurppa, 2002). Two types of occupational asthma are recognized: reactive airway dysfunction syndrome and allergic occupational asthma. The Canadian Lung Association (n.d.) identified cleaning chemicals as a trigger for asthmatics. Employees with asthma experience wheezing, coughing, chest tightness, and trouble breathing, and if asthma is not properly controlled, the employee can even suffer a fatal allergic reaction (Jaakkola & Jaakkola, 2006). The Barcelona Municipal Institute of Medical Research found that female housekeepers had more than twice the rate of respiratory problems as nonhousekeepers (Zock, Vizcaya, & Moual, 2010). Finally, women in service industries, including waitresses, various categories of cleaners, and dental workers, have the highest risk for occupational asthma (Jaakkola, Piipari, & Jaakkola, 2003).

Dermatological Diseases and Allergies

Hotel cleaners are potentially exposed to chemicals (e.g., cleaning products, disinfectants, latex, and other dermatological allergens) that can be absorbed through the skin. Dermal exposure to hazardous agents can result in various occupational diseases and disorders, including occupational skin diseases (OSDs) and systemic toxicity (Centers for Disease Control and Prevention [CDC], n.d.b.). OSD can cause irritant contact dermatitis, allergic contact dermatitis, skin cancers, skin infections, skin injuries, and other miscellaneous skin diseases (CDC, n.d.b.). Among them, contact dermatitis (eczema), a skin disease resulting from exposure to a hazardous agent, is the most common form of reported OSD, constituting 90% to 95% of all OSD cases in the United States (Dickel, Kuss, Schmidt, Kretz, & Dieppgen, 2002). Symptoms of contact dermatitis can include itching; pain; redness; swelling; blisters; or dry, flaking, scaly skin that may develop cracks.

Serious occupational skin disease can interfere with employees' household, work, or recreational activities (Nethercott & Holness, 1994).

Infectious Diseases

If biological agents are not handled properly while performing their guestroom cleaning duties, hotel cleaners can be affected with bloodborne pathogens, such as hepatitis B, hepatitis C, or HIV. Over time, hepatitis may lead to chronic liver damage or cirrhosis of the liver (EU-OSHA, 2009), whereas HIV can further compromise their immune system making them susceptible to a wide host of opportunistic infections. In addition, Legionnaires' disease is often developed in hotels where spa pools, water coolers, hot water tanks, large plumbing systems, and air-conditioning systems provide an optimal environment to grow *Legionella* bacteria (Field, Benson, & Besser, 2002). Hotel cleaners may breathe in a mist or vapor (small droplets of water in the air) that has been contaminated with the bacteria. Legionnaires' disease can be very serious and if not treated appropriately, can cause death in 5% to 30% of cases (CDC, n.d.a.).

Psychological Disorders

Substantial evidence has supported that occupations with a high work pace and low skill discretion can lead to a higher risk of mental health problems or even serious disorders (i.e., Calnan, Wadsworth, May, Smith, & Wainwright, 2004; O'Campo, Eaton, & Muntaner, 2004; Stansfeld & Candy, 2006). Incidence of schizophrenia among laborers in housekeeping, laundry, cleaning, and servant-type roles is 4.1 times higher than workers in other occupations (O'Campo et al., 2004). Cleaners who were both female and immigrant were found to have a greater risk of mental health problems than their ethnic Norwegian counterparts in a sample of cleaners in Norway in terms of anxiety and depression (Gamperiene, Nygård, Sandanger, Waersted, & Bruusgaard, 2006). Psychological distress can be exacerbated by lack of job autonomy, insufficient managerial and collegial support, a sense of uncontrollability and unpredictability in the work environment, and low social and legal protections (Gamperiene et al., 2006; Sales & Santana, 2003; Sauter, Murphy, & Hurrell, 1990; Zock, 2005).

The foregoing discussion corroborates Latina hotel cleaners' higher risk for psychological problems as compared with their non-Latina counterparts. Prolonged exposure to adverse psychosocial work conditions can trigger physiological, behavioral, emotional or cognitive reactions, leading to psychological disorders such as anxiety, depression, burnout, substance abuse (e.g., smoking, alcohol), and other mental health problems (Burgel et al., 2010; EU-OSHA, 2009; Leka & Jain, 2010). People suffering from severe mental disorders or untreated depression may resort to aggressive coping methods such as suicide. Among suicide victims, 30% to 70% suffer from major depression or bipolar disorder (Maris, Berman, & Silverman, 2000).

Implications for Interventions to Improve Latina Hotel Cleaners' Working Conditions and Health

As a highly underserved occupational segment, Latina hotel cleaners face greater adversity than other workers because of their ethnic origin, language barriers, and precarious immigration status (Buchanan et al., 2010; Premji & Krause, 2010). They are exposed to a multitude of disproportionately high work-induced hazards resulting in a wide array of adverse physical, ergonomic, chemical, biological, and psychosocial afflictions and conditions. Because of the syndemic complexity of problems facing Latina hotel cleaners, along with the modest results of small-scale, conventional, individual-based interventions, a new health paradigm, which coordinates and integrates work and nonwork parallel pathways, presents itself as an imperative necessity.

This holistic approach would incorporate multilevel, multisectoral, and multistakeholder interventions to prevent and alleviate the work-related hazards and strains faced by Latina hotel cleaners. At the legislative level, enforcement of occupational safety standards is needed to address the unique hazards that lead to high injury rates among Latina hotel cleaners. It is also important to emphasize the role of labor unions in representing hotel cleaners in negotiations with employers regarding wages, work hours, workloads, and work conditions to safeguard their rights and welfare.

At the organizational level, employers have a legal obligation to protect the health and safety of their employees. Employers must conduct risk assessments to identify and control foreseeable health and safety risks and adopt interventions to prevent work-related injuries and illnesses. Preventive measures that can be adopted by employers to protect Latina hotel cleaners from physical hazards include teaching Latina hotel cleaners proper techniques, positioning, posturing, and body mechanics; procuring ergonomic cleaning tools and equipment; better design of guestrooms to facilitate cleaning work; reducing the number of assigned guestrooms; and assigning tasks that combine easy and heavy work (EU-OSHA, 2008; NIOSH, 2012). In addition, to prevent chemical hazards, all containers and spray bottles should be clearly and bilingually labeled, and personal protective equipment (e.g., rubber gloves, eye shields, and face masks) should be provided to reduce chemical risks. Latina hotel cleaners should be instructed on how to avoid mixing different and dangerous chemicals (Health and Safety Executive [HSE], n.d.).

To minimize biological hazards, standard procedures must be established for hotel cleaners to follow in properly handling dangerous waste and avoiding infections. Latina hotel cleaners should wear appropriate personal protective equipment, ensure that they use cleaning solutions at the correct strength, and practice good personal hygiene. First-aid staff should be trained in infection control procedures to handle potential exposures, and other safeguards (e.g., emergency eye wash stations on each floor) should be put into place (EU-OSHA, 2009; OSHA, n.d.).

To reduce psychosocial hazards, administrative actions such as job rotation, job redesign, work flow improvement, teamwork, and stress management should be implemented (EU-OSHA, n.d.). The overwhelming success of an injury prevention program in a large Las Vegas hotel was attributed to the strong support from hotel management (Landers & Maguire, 2004). Managers' participation in training sessions was perceived by the hotel cleaners as a sign of genuine concern by the company, which enhanced work relations and improved their job satisfaction. As a result, these hotel cleaners were willing to follow work safety instructions, resulting in fewer injuries. Supervisor and coworker support can also alleviate stress and enhance wellness (Olesen et al., 2012). Recognition and respect from supervisors and managers boost work morale and help cultivate a work environment that makes Latina hotel cleaners feel safe about expressing their concerns regarding the workplace and health problems (EU-OSHA, n.d.; Leka & Jain, 2010).

Finally, a zero-tolerance policy regarding violence, bullying, and discrimination should also be established and enforced. Violators of this policy must be held accountable and disciplinary consequences should be included in the policy. Reporting systems that do not penalize the worker filing complaints, as well as proper procedures and training, should be provided to minimize or eliminate occupational violence and workplace bullying. Individual assistance for dealing with workplace incidents must be made readily available to workers (OSHA, 2011).

At the community level, health care providers should put a greater emphasis on training professionals to provide more culturally responsive and effective quality care as a potential means of addressing the occupational health disparities among Latina hotel cleaners (Amaro & Torre, 2002).

At the academic level, Latina hotel cleaners remain a relatively understudied occupational group and have so far received little attention from researchers. It is worth noting that the immigration status of Latina hotel cleaners often creates a barrier for researchers attempting to collect data (Schenker, 2010). Many of the workers are undocumented and might fear deportation or arrest because of participating in this study. Therefore, traditional research methods such as standard population-based surveys are not feasible for this group. Researchers need to adopt alternative research methods (e.g., a community-based participatory research approach) to collect data from Latina hotel cleaners. Because of the complexity of Latina hotel cleaners' occupational health, future studies can apply a dynamic system approach to investigate how physical and psychosocial working conditions interact with sociocultural factors to affect Latina hotel cleaners' health and well-being and identify the health needs of this underserved occupational group. It is also essential for future studies to develop and evaluate intervention strategies aiming to reduce the workplace hazards and promote safer work practices for Latina hotel cleaners. Further research can also focus on designing work safety training programs and educational materials that address Latina hotel cleaners' language preferences and cultural values.

Concluding Remarks

Latina hotel cleaners are heavily exposed to disproportionately high, work-induced hazards with potential to cause serious harm to their health. Socioeconomic and immigrant status, limited English proficiency, lack of health care access, and stigmatization have the potential to further exacerbate their elevated risk of poor health. As both etiological research and interventions on Latina hotel cleaners have thus far been limited, more studies are needed to delineate the underlying causes of multilevel, interacting determinants of their high incidence of injury and musculoskeletal disorders in particular, bridge pronounced occupational health disparities, and effectively protect and advance health, safety, and well-being for themselves as well as their families.

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