IMMIGRANTS, WORK AND HEALTH

A qualitative study

Emily Ahonen

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DIRECTORS DE LA TESI

Dr. Fernando G. Benavides, Occupational Health Research Center

Dr. Joan Benach, Occupational Health Research Center

UNIVERSITAT POMPEU FABRA

To the journey taken, and to those still to come.

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"All rules for study are summed up in this one: learn only in order to create."
Friedrich Schelling

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ABSTRACT

Objective: To examine the working conditions, hazards, influencing factors and effects on health experienced by immigrant workers in Spain.

Methods: Qualitative, exploratory and descriptive study in five Spanish cities. Criterion sampling of 158 documented and undocumented immigrant men and women. The final sample size was determined by saturation of the discourse. Data were collected between September 2006 and May 2007 through semi-structured individual interviews and focus groups, using a topic guide. We employed narrative content analysis to examine data according to a mixed-generation scheme.

Main results: Widespread exposure to a variety of occupational hazards, long work hours, and few days off, as well as discriminatory assignation of tasks. Informants lacked worker safety training, appropriate personal protective equipment, and experience in current jobs. Most had very little control over elements of their work environment. Finally, informants reported abuses in terms of employment conditions. Health effects reported ranged from the experience or fear of acute injuries, to chronic strain injuries, respiratory and dermatologic responses, to the accumulation of fatigue, sleep affectations, somatic symptoms, and mental health concerns such as anxiety and depressive mood. Differences by documentation status and gender are discussed.

Conclusions: These results leave little doubt about the need for better outreach and support for immigrant workers in Spain. Better data collection and surveillance of this worker population is a centrally

necessary element of stronger immigrant worker support. Specific areas in need of more study and policy consideration are discussed.

RESUMEN

Objetivo: Examinar las condiciones de trabajo, los riesgos, los factores influyentes y los effectos en salud experimentados por trabajadores inmigrantes en España.

Métodos: Estudio cualitativo, exploratorio y descriptivo en cinco ciudades españolas. Muestreo de criterio de 158 hombres y mujeres documentados e indocumentados. El tamaño de la muestra final se determinó por saturación del discurso. Los datos fueron recogidos entre septiembre del 2006 y mayo de 2007 mediante entrevistas individuales y grupos focales, ambos semi-estructurados y con un guión de temas. Se empleó un análisis narrativo del contenido, siguiendo un esquema de generación mixta.

Resultados destacados: Los participantes relataron una exposición frecuente a una variedad de riesgos laborales, horas largas de trabajo y pocos días de descanso, además de prácticas discriminatorias en cuanto a la asignación de tareas. Los informantes carecían de formación en seguridad laboral y de experiencia en sus puestos de trabajo. La mayoría tenía poco control sobre su ambiente de trabajo. Finalmente, relataron abusos en términos de sus condiciones de empleo. Los efectos en salud relatados cubrían un rango, desde la experiencia o el miedo de sufrir lesiones agudas, lesiones de estrés crónico, problemas respiratorios y dermatológicos, la acumulación de fatiga, afectaciones del sueño, síntomas somáticos y síntomas de salud

psicológica pobre tales como ansiedad y depresión. Se examinan las diferencias halladas por estatus administrativo y género.

Conclusiones: Estos resultados no dejan lugar a duda en cuanto a la necesidad de mejorar el apoyo a los inmigrantes trabajadores. También son necesarios mejores datos y vigilancia a la salud de esta población como elementos centrales de tal apoyo. Se discuten áreas específcas que requieren más atención desde la investigación y la polítca.

PREFACE

Overview of the ITSAL project

The data, manuscripts and articles that make up this dissertation are the partial results of a three-year, coordinated project consisting of three sub-studies, that involved researchers in five Spanish cities: Alicante (Universidad de Alicante, Universidad Miguel Hernández), Barcelona (Universitat Pompeu Fabra), Huelva (Universidad de Huelva), Madrid (Instituto sindical de trabajo, ambiente y salud), and Valencia (Universidad de Valencia, Instituto sindical de trabajo, ambiente y salud). Its general objective was to study the working conditions and characteristics of precarious employment in immigrant workers and the relation of those factors to health. It was a multi-method study involving quantitative and qualitative phases and included both primary and secondary data.

The first sub-study was a qualitative study with immigrant workers aimed at better understanding their work and health experiences. The second sub-study involved analysis of secondary occupational injury data comparing foreign and national workers. The third sub-study used information garnered in the first two to design, pilot, and employ an original survey tool to gather information on working and employment conditions and occupational health in immigrant populations.

Within the structure of the ITSAL Project, the doctoral candidate was responsible for literature review and analysis of injury data in Sub-

study two, along with colleagues. Furthermore, she co-coordinated the overall project and was responsible, with another colleague, for all data collection in Barcelona in Sub-study one, both the preliminary and definitive field work. She managed the data and performed all analyses described in Results here. The main results, presented here in the form of two original manuscripts that are in an advanced stage of the peer-review process, are from Sub-study one. Several other manuscripts and articles are also presented in Appendices, as they represent the full development of the candidate's work within the project.

The candidate is the first author of both original empirical manuscripts presented in the Results section. The first examines the working conditions, distal occupational concerns, and health hazards described by informants by gender and documentation status. The second describes the occupational hazards and health effects women immigrant workers in household service perceived. The key-informant article, in which she is a co-author, and which can be found in the Appendices, describes the results of preliminary fieldwork performed with key informants. The candidate and her colleagues in Barcelona drafted the first versions of the survey tool, and she participated in discussion and modification of subsequent versions with the ITSAL research group. The tool is designed for use in a representative sample of four immigrant groups and deals with both employment and working conditions (Appendices). Finally, a literature review, performed and written by the candidate; three analyses of occupational injury data, of which she was the primary analyst for two; and two manuscripts on precarious employment in

immigrants on which she is co-author can also be found in the Appendices section.

Index

Appendices

1. Occupational injury data 2003 abstract
2. Occupational injury data 2003-2004 abstract
3. Occupational injury data 2005 abstract
4. Literature review abstract
5. Key informant interview guide
6. Preliminary fieldwork interview summary sheet
7. Key informant study abstract
8. Interview topic guide
9. Interview summary sheet
10. Informed consent form
11. Socio-demographic information form
12. Analysis procedure
13. ITSAL Survey tool (ITSAL Study, Spain 2008)
14. Interviewer training manual (ITSAL Study, Spain 2008)
15. Correspondence with journals about dissertation manuscripts
16. Other co-authored manuscripts and Presentations

List of tables and figures

1. INTRODUCTION

1.1 Migration and work

a) Contemporary migration worldwide
b) The informal economy and labor market segmentation
c) Migration and labor markets in Southern Europe
d) Migration in the Spanish context

1.2 Migration and health

a) The interplay of work and health
b) Occupational health in special populations
c) Occupational health of immigrants in the Spanish context

1.3 Tables and figures

1.4 Study questions, purpose and objectives

1. INTRODUCTION

In order to discuss the occupational health of immigrants, certain basic concepts about each of the three elements (migration, work and health) must first be outlined. What follows is the groundwork that has guided the conceptual development of this study. It includes an overview of thought on contemporary global migration, notes on the informal economy and labor market segmentation, and their specificities in Southern Europe and Spain. It then describes basic points of contact between work and health, and their nuances within special populations, the focus of which here is on international migrants. The section ends with an explanation of what is known about the occupational health of immigrants internationally and in Spain. The content of the first subsections, however, are enormous thematic areas and the subject of extensive research and debate within their respective fields. What follows is an outline, and is meant to orient the reader to the ideas and vocabulary employed within this study of working conditions in immigrants in Spain.

1.1 Migration and work

a) Contemporary migration worldwide

International migration is a major force in our time. Some estimates of financial remissions made by migrants working abroad put labor second only to oil in terms of amount of world trade (Castles & Miller 1998 citing Martin 1992). Historically speaking, different parts of the world have very distinct migration patterns. Some countries,

considered the "classic" 19th century countries of immigration (the United States, Canada, New Zealand, Argentina), have as part of their national history and mythology the absorption of newcomers. Others, such as Northern and Western Europe, began to see mass migration following World War II, and recruited migrants in the 1960s and 1970s for labor purposes. The Middle East and Asia currently have complex regional migration situations, and Africa has historically had internal continental movement for work and because of refugee flows, and some post-colonial movement. Castles and Miller (1998. p. 8-9), writing in the late nineties, identified five tendencies in international migration that they expected to play a role in the following 20 years:

1. Globalization of migration, or the tendency of more countries to be affected by international migration, with greater differentiation of sending countries creating a broader social and cultural mix in receiving countries;
2. Acceleration of migration, or a growth in volume in all major regions, which creates urgency and complication for policy-making;
3. Differentiation of migration, with most countries receiving different types of immigration at the same time (i.e. labor migration, refugee movement, permanent settlement);
4. Feminization, in which women since the 1960s have played a major and increasing role in all regions and all types of migration;
5. Politicization, wherein migration is increasingly affecting domestic politics, bi-national and regional agreements, and national security politics.

Contemporary discourse on migration usually falls within one of three theories about the processes of migration (Castles & Miller 1998, p. 19-47). The first is a neoclassical economic equilibrium perspective based on the statistical migration laws put forth by E.G. Ravenstein in the latter part of the 19th century. It is into this category that "push-pull" theories of migration fall. It emphasizes movement from densely populated areas to sparsely populated ones, and from low-income to higher-income areas; such movement is sometimes associated with changes in the business cycle. This perspective is associated with neoclassical economic thought, and has been criticized as a-historical and individually-centered. Concretely, this perspective does not explain the fact that migrants are generally not the poorest people from the least developed areas, nor does it give explanations for migrants´ subsequent choices of country. Finally, some scholars find the idea of individual, free-choice migration lacking.

The second theory is an historical-structural approach with its basis in Marxist political economy. Accordingly, it stresses power and wealth distribution inequalities in the world economy. It posits that migration creates cheap labor and is a way to keep the so-called Third World dependent on the First World. This approach is criticized for its one-sided emphasis on capital and for not allowing for both individual and collective motivations for migration.

The third, migration systems theory, emphasizes international relations, political economy, collective action and institutional factors in its explanation of migration processes. In this theory, migration between two countries (a migration system) often arises through

previous links between those two countries, is motivated by both macro and micro structural factors and usually involves family-level decisions about individual migration. In study of migration systems, scholars must study both ends of the migration flow. This theory includes the idea of a migration industry, which is the link between individual migrants and the state and economy into which they migrate. The perspective employed in developing this study most closely matches a migration systems theory.

b) The informal economy and labor market segmentation

Informal economies (sometimes also called underground, submerged, or secondary), as defined by Portes, Castells and Benton (1989 p. 3-13), are unregulated by the institutions of a society, in an environment where similar activities are regulated. An informal economy is a process of specific production relationships rather than an object, and changes over time. An informal economy can only exist in reference to a formal one, and informality affects three main areas of the work process: the employment relationship (i.e. undeclared labor, absence of social benefits, below minimum-wage pay), the conditions under which work is performed (reduced health and safety conditions, for example), or the management strategies within specific firms (informal practices within formal enterprises). It has been suggested that the more heavily regulated a formal economy is, the more likely individual actors are to try to skirt those regulations through the informal economy, and the more marked the differences between the two economies will be (Portes, Castells & Benton 1989, Nonneman 2007).

In countries with highly-developed economies, there is a popular tendency to attribute informality to immigrant presence. However, scholars have pointed out that the evidence does not support the idea of immigrant importation or causation of informality (Sassen 1996, Portes, Castells & Benton 1989). Rather, since informal economies are integrated into wider national economies, immigrants are one obvious source of informal labor because of their frequently vulnerable status within receiving countries, but are by no means the only one. All workers in informal economies have in common the label of "downgraded labor" (Sassen-Koob 1989), but this vulnerability is socially produced and can apply to native labor sources as well.

Another important concept is that of labor market segmentation. Within the context of highly developed countries tending ever more frequently towards service economies, there has been an emphasis on increased demands for highly skilled workers while at the same time ignoring (at least explicitly) the continued need for workers in the low-skilled jobs (Sassen 1996). In fact, such economies tend to concentrate demand at the extremes of the job market (Sassen 1996, May et al 2007). At one end, highly skilled workers in highly-paid work (primary sector or primary workers), and at the other, poorly paid workers in jobs requiring little skill and allowing for scarce career development (secondary or tertiary). In addition to this process, often called segmentation, authors describe various "parallel segmentations" of the labor market, which involve women, young people, and immigrant workers occupying jobs that are uncertain, low-paid, and

have poor working conditions and which often are necessary to maintain the competitiveness or even the function of work in the primary sector. (Sassen 1996, European Agency for Safety and Health at Work 2007, Nonneman 2007, Baldwin-Edwards 1999, Martínez Veiga 1999, Cuadrado Roura, Iglesias Fernández & Heras Llorente 2007).

c) Migration and labor markets in Southern Europe

While significant historical differences exist regionally and by individual country in Europe, recent migration history has been described in terms of three waves: labor migration in the 1950s and 60s; followed by family reunification; and what is called post-industrial migration beginning in the 1980s (European Agency for Safety and Health at Work 2007). Regional differences can be seen by comparing the immigration experience in Southern Europe to that of Northern Europe. Generally speaking, workers from specific countries of origin were recruited by the governments of Northern European countries to fill specific labor needs; these people were then incorporated into the formal economy, with equal labor rights compared with natives, and often with bi-lateral agreements to promote legal protection of foreign workers (Baldwin-Edwards 1999). In Southern Europe, however, immigrants come from many diverse countries of origin with varying educational levels, and many enter, reside and work illegally, an issue of particular concern (European Agency for Safety and Health at Work 2007). State agencies have not generally recruited directly in Southern Europe; rather, illegal traffickers or "brokers" have played this role. Bi-lateral agreements relate to expulsion rather than

recruitment, and immigrants enter with great frequency into the informal economy. Furthermore, immigrants in Southern Europe have usually had few social and legal rights (Baldwin-Edwards 1999).

Several factors have been proposed as motivating factors for in-migration into Southern Europe, including weak controls, especially in the earliest moments of Southern European migration; geography that situates Southern Europe as a gateway into Europe as a whole; relatively closed Northern European borders; colonial links with Southern European countries; and a demographic 'push' factor from Northern Africa (Baldwin-Edwards 1999). Recently, this situation has become more complicated with the addition of more countries to the European Union and its resultant intra-EU migrations, and the difficult task facing Southern Europe of conforming to more restrictive EU and Schengen Treaty immigration policies, while continuing to be economically attractive to migrants as individual countries and as a gateway to Europe (Baldwin-Edwards 2004).

Additionally, factors such as the presence of both high and low-productivity sectors within Southern European countries and the rapid transfer of native workers from low to high-productivity sectors, accompanied by rural to urban internal migration leave jobs in low-productivity sectors unoccupied (Baldwin-Edwards 1999). However, several scholars believe that one of the most important factors in immigration to Southern Europe is the large underground economies that support and, according to some scholars, require immigrant labor (Baldwin-Edwards 1999).

A three-phase model has been proposed to describe Southern European immigration with reference to the informal economy (Baldwin-Edwards 1999 citing King 1997). According to this model, an excess of labor and weak unions from the 1950s to the 1970s meant that wages were low and businesses were able to accumulate capital. In the period from 1970 through the eighties, higher wages and lower accumulation of capital were characteristic, due to reduced labor supply and a shift to emphasis on high-production sectors. In the late 1980s through the 1990s, unemployment increased, investment was reduced, and a recession occurred. Meanwhile, low-productivity sectors were unable to raise wages because they would become uncompetitive. Native workers preferred unemployment or further education over low wages or medium or poor-quality jobs. Thus, these low-productivity sectors have become dependent on (often illegal) immigrant labor to stay competitive. As such, immigrants can be viewed as playing a role in compensating for structural defects in Southern Europe labor markets (Baldwin-Edwards 2002). They fill the low-quality jobs for which Southern European countries have insufficient native labor supply, they help employers to skirt a heavily-regulated and inflexible labor market through the informal economy, and they maintain the competitiveness of low-productivity sectors.

d) Migration in the Spanish context

In the 1980s following the transition to democracy, Spain lived a rapid change from being a country of émigrés to being a receiver of foreign immigrants. Spain is now considered an inward migration country

(European Foundation for the Improvement of Living and Working Conditions 2007, Castles & Miller 1998), and has seen a steady increase in its resident foreign population since the mid-nineties (Figure 1, European Commission 2008). It is currently estimated that about 4,519,554 foreign migrants live in Spain, or 10% of the total population (National Statistics Institute, Municipal Register of Inhabitants 2007). While the largest group of foreign residents comes from European Union countries (about 39% of all foreign residents), not far behind are the Latin American residents, at about 31%. By nationality, the largest group of foreign residents is from Morocco, followed by Romanians, Ecuadorians, Colombians, and British (Ministry of Labor and Social Affairs Statistical Bulletin 2008).

These new residents are not distributed equally throughout the Spanish territory. Rather, certain autonomous communities receive higher total numbers of foreign migrants than others, with Catalonia, Madrid, Valencia, and Andalusia standing out as the communities with the highest numbers of authorized foreign residents (Figure 2, Ministry of Labor and Social Affairs Statistical Bulletin 2008). The number of unauthorized foreign residents is more difficult to estimate. Subtracting the number of foreign residents with active residency permits from the current number of foreigners in the Municipal Register of Inhabitants (which also allows registry of undocumented individuals), gives an estimate 540,540 undocumented individuals. Differences between those foreigners registered in the Social Security system and those estimated in the Spanish Labor Force Survey (EPA) gives a number of 671,540 individuals (Pajares 2007). Still other sources put the number at as high as 850,000. (Baldwin-Edwards

2004) The estimations for both documented and undocumented individuals are probably low (Economic and Social Council 2004).

The new population is composed of relatively well-educated people, at a level similar to the Spanish population as a whole (Economic and Social Council 2004, Pajares 2007, Cuadrado Roura, Iglesias Fernández & Heras Llorente 2007, National Immigration Survey 2007). While non-European Union immigrants have lower levels of college education than Spaniards, a greater percentage of those same immigrants have finished secondary education than the Spanish population (Table 1, Pajares 2007). A recent representative sample of immigrants living in a family unit, defined as anyone born outside Spain, puts the percentage of post-secondary-educated people at about 22%, equal to that of Spaniards (National Immigration Survey 2007).

The great majority of authorized resident foreigners are working age (Figure 3, Ministry of Labor and Social Affairs Statistical Bulletin 2008), while sex proportions vary by country of origin. Latin American foreign residents have among them the greatest proportion of females, at 50.6%, followed by North Americans (45.4%), and non-European Union countries (42.4%). In contrast, women of African origin form only 17.6% of the total foreign residents from that continent (Pajares 2007). Overall, the foreign population registered in the Social Security system is significantly younger than the registered Spanish population (Pajares 2007).

The Spanish labor market is characterized by: low participation (60% active) and high unemployment (9.6%), especially in women (11.9%)

and young people (ages 16-24, 23% of total unemployed); high levels of temporary employment (30%) and rotation among employment, unemployment and inactivity, again very notably in women and young people; a large informal economy especially in certain sectors; low growth of productivity; low mobility of the workforce; and significant territorial variation (Economic and Social Council 2004, Labor Force Survey 2008)

Within that context, the immigrant population as a whole has a higher level of workforce participation compared to natives (76.6% vs. 57.03%), and a higher rate of unemployment (14.65% vs. 8.73%), (Labor Force Survey 2008) though this latter difference is far more marked in men than in women, who have higher work force participation than native women (Economic and Social Council 2004). One study that focused on immigrants from non-EU countries, Africa, and Latin America showed that, over a five-year period of residency in Spain, workforce participation and unemployment rates approached those of Spaniards, but that the higher rate of temporary contracting among immigrants remained constant (Fernández & Ortega 2006).

Migrants in Spain are over-represented in the manufacturing, mining and energy, construction, wholesale and retail sales, accommodation and food services, household services, and other services industries (European Foundation 2007). The six industries with greatest immigrant worker presence are: construction, accommodation and food services, household services, wholesale and retail sales, "other business-related activities", and agriculture (Pajares 2007).

Furthermore, research has shown that immigrant workers are much more likely than Spaniards to be overeducated for their positions, and this difference remains even with tenure in Spain. However, the extent of over-qualification varies by region of origin (Fernández & Ortega, 2006).

1.2 Migration and health

a) The interplay of work and health

Health has been defined in myriad ways, and the focus and scope of those definitions has evolved over time. Likewise, as the definition of health has evolved, so, too, have ideas about the things believed to influence, or determine, health. A broad definition allows that a person's state of health is determined by the complex interactions of biology, human conduct, and the social and physical environment (Benavides, Garcia & Ruiz-Frutos 2007). In such a model of health determinants (Figure 1, Acheson 1998), work is thought to form part of a person's environment, and work may contribute to an individual's conduct both within and outside the workplace. These elements in turn interact with others of the model. The interactions of these determinants always occur within a larger social and economic structure, including but not limited to the health care system and the (welfare) State.

It is well-known that work can have effects on the health of individuals, both positive and negative. Work can be a source of positive health impacts, such as those derived from income, social and

medical benefits and protections, self-esteem, and personal development. It can also be a source of negative health impacts. The impact that work has on health is determined by the type of work performed, and by conditions of employment and work, as described in Figure 5 (Benavides 2007).

A working condition is a characteristic of work that may or may not affect the health of a worker. (Benavides et al 2002). However, many definitions assume health effects within their definitions. This type of definition varies as to the factors considered working conditions and their health effects. Some definitions, for example, consider only those influencing factors directly related to the characteristic of a specific job within a specific workplace, such as a clear, uncluttered work station for a sewing machine operator. Others take a wider view, including conditions that are external to a specific job in a specific workplace, such as the employment relationship, organization of work, and other social and economic conditions in a given region (Jodar & Benavides 2007).

Furthermore, definitions vary as to where health effects may be considered a result of working conditions; some definitions limit themselves to physical outcomes, while others include psychological and social health outcomes as well (Jodar & Benavides 2007). Here, working conditions are understood as initially neutral, that is, not necessarily affecting the health of a worker, and according to the broader, more inclusive perspective that may consider non-work conditions.

Working conditions can be converted into occupational risks or hazards, depending on whether they potentially cause harm to a worker's health. Risk factors are grouped into four classifications, named by their source: structural risks (i.e. slippery surface, poorly maintained equipment), environmental risks (extreme temperatures, chemicals), ergonomic risks (repetitive movements, sedentary work) and organizational risks (low task control, high psychological demands). A worker exposed to risks may become injured or ill as a result of that exposure, depending on the type of risk and dose of the exposure to the risk, its intensity and duration, and other contributing factors. As Schulte has pointed out, the idea of complete separation between work and the rest of life is artificial; thus both occupational risks and non-work risks are relevant within the framework of worker health (2006).

b) Occupational health in special populations

Occupational health can be defined as the organized effort of a society to prevent occupational risks and promote the health of workers (Benavides et al 2002). As discussed above, working conditions can become occupational hazards. Those conditions and potential hazards depend on the type of work and tasks performed. As such, all people do not have the same working conditions and are not exposed to the same hazards. These conditions are in turn determined by many factors, such as the geographic availability of work, individual workers´ skills, education, experience, personal characteristics, and job assignment (Lipscomb et al 2006).

This logic can be extended to groups of people as well. Demographic characteristics, such as age, sex, and ethnicity, as well as characteristics such as social class and education, play a role in who does which jobs, and who is exposed to which risks (Lipscomb et al 2006, Davis et al 1995). Such characteristics are often highly interrelated, due to historic and present day barriers to resources and discrimination. As such, the poor, women, young people, and racial/ethnic minority groups are often segregated into higher-risk jobs and perform higher-risk tasks. This means that as groups, they can be disproportionately at risk for developing work-related health problems.

Similar patterns may exist for immigrant populations. In countries with historical immigrant presences such as the United States, newly arrived immigrants have typically occupied the dirtiest, most demanding and most dangerous jobs (Davis et al 1995). Sources suggest that migrants in Europe may currently be being directed into unskilled jobs with low wages, instability, and potential negative health and safety consequences (European Foundation 2007, Economic & Social Council 2004, Fernández & Ortega 2006, May et al 2007).

Despite studies on migration, health, working conditions, occupational injury and illness, and some combinations of the above, very little literature currently exists that combines the study of migration, work, and health into one framework (Nonneman 2007). In a systematic literature review (Ahonen, Benavides & Benach 2007) that summarized the information on immigrant occupational health available from studies available for the period 1990-2005, the authors found a relatively small body of relevant literature (n=48) considering

the broad nature of the themes and the magnitude of population movement.

The studies were highly diverse in terms of study population, methodology, and outcome examined. The majority of the studies came from historic immigration countries. The review authors cited difficulty in locating relevant studies because of different naming and definition patterns. For example, words like ethnic minority, minority group, foreigner, and migrant were used to refer to non-native populations. However, sometimes just the opposite was true; names given to ethnic minority groups or referring to nationality of origin were used to indicate non-native status in study populations. This variety of definition may be due to the length of time the relevant populations had been resident in the study sites; ethnic groups and minorities are the result of more (ethnic community/group) or less (ethnic minority) integrative migratory processes (Castles & Miller 1998). In any case, the reasoning behind group naming was usually not specified. The studies included in the review refer to non-national groups as well as to ethnic minority groups that have within them high numbers of recently arrived individuals. This approach was chosen explicitly in order to build on, instead of challenge, currently existing data in a sparsely populated study area. Recently arrived individuals will be more vulnerable, but some groups remain marginalized although time has elapsed since their arrival.

The included studies showed unemployment in immigrants to be associated with poor consideration of one's health and poor mental health (Akhavan et al 2004), as well as chronic health problems and

low satisfaction with health (Elkeles & Seifert 1996). Less than ideal working environments have been related to low life satisfaction, though to a lesser degree than in the native comparison group (Rosmond, Lapidus & Björntrop 1998). Furthermore, studies described psychological stress related to workplace exposures, marginalization, and insecurity (Griffin & Solskone 2003, Jackson 1996, Walter et al 2002, Facey 2003).

Hazards and work-related health problems in immigrant workers included but were not limited to pesticide (Arcury, Quandt & Russell 2002, Wilk 1993, Lantz et al 1994) and chemical exposure (Azaroff, Levenstein & Wegman 2004 Gannagé 1999; Burgel et al 2004; Faucett et al 2001; Phoon 1997), and musculoskeletal disorders in agricultural and garment workers. A large portion of the included studies addressed occupational injury, which the review authors attributed to availability of data. Some studies of fatal occupational injuries suggested increasing or higher rates in immigrant or minority groups (Loh & Richardson 2004; Richardson et al 2004; Dong & Platner 2004; Peek-Asa, Erickson & Kraus 1999; Corvalan, Driscoll & Harrison 1994). While studies of non-fatal injuries yielded less consistent results, some suggested elevated injury rates and longer recovery time in immigrant workers (Carangan, Tham & Seow 2004, Cooper et al 2005, Pransky et al 2002, Bollini & Siem 1995). They also discussed marginalization, and difficulty accessing care and compensation for work-related health problems.

The studies also suggested similar possible reasons for the trends, such as immigrants occupying the most dangerous jobs and performing the

most dangerous tasks within those jobs (Azaroff, Levenstein & Wegman 2004; McCauley 2005; Elkeles & Seifert 1996, Capacci, Carnavale & Gazzano 2005, Corvalan, Driscoll & Harrison 1994), lack of safety training (Pransky et al 2002; Azaroff, Levenstein & Wegman 2004, O'Connor et al 2005, Shipp et al 2005, Pun et al 2004, Brunette 2004), linguistic and cultural complications (Dong & Platner 2004; Corvalan, Driscoll & Harris 1994; Pransky et al 2002; O'Connor et al 2005; Nuwayhid et al 2003, Wu et al 1997), transience of the work, and fear of negative consequences for asking for better working conditions or reporting injuries and illnesses (Pransky et al 2002, Dembe 1999).

Finally, the review authors discussed the lack of appropriate, complete and accurate data on immigrant worker health, something almost all of the included studies mentioned. They point out that injuries and illnesses are probably underreported in vulnerable populations, that work-related health problems are often not diagnosed or classified as such, and that many immigrant workers are not included in typical data registries used for surveillance (Azaroff, Levenstein & Wegman 2003, Earle-Richardson et al 2003, Azaroff, Lax et al 2004, Sass 2000; Ponce, Nordyke & Hirota 2005, Dembe 1999, Bollini & Siem 1995; Nuwayhid et al 2003). Furthermore, they discussed structural, economic and legal barriers to reporting of illness and injury, as well as access to care and compensation for sick or injured immigrant workers. The authors concluded that more research and action are needed, especially in terms of more agile and adaptable data collection, surveillance, and safety interventions within an increasingly complex working population (Ahonen, Benavides & Benach 2007).

c) Occupational health of immigrants in the Spanish context

Assessing knowledge about the occupational health of immigrants in Spain first requires an understanding of several concepts. Given the lack of precedent in the scientific literature, how "immigrant" is defined is important; as discussed above, the concept was usually not clearly defined in extant literature, and Spanish definitions suffered the same lack of specificity, especially in the public health field (Malmusi, Jansà, del Vallado 2007). Besides the pragmatic need for clarity, the ideological implications of defining should not be overlooked. Race and ethnic minority definition and naming in the medical and health fields has a troubled past, and debate continues about the appropriateness of terms and studying minority groups today, as many societies find their way with ever more ethnically diverse populations (Bhopal 1997, 1998, 2006, Bhopal & Donaldson 1998, Agymang, Bhopal & Bruzinzeels 2005).

In immigrant groups, the idea of documented versus undocumented is an important starting point. This division is also alternately referred to as authorized/unauthorized or legal/illegal. Because the labeling of *people* (versus entry or presence) as "legal" or "illegal" is problematic and lacking in real meaning, it will not be employed here. The terms referring to documentation or authorization status will be used synonymously to refer to people. Conceptually, the labels referring to immigrants imply medium to long-term presence, which would generally exclude people on a short stay visa (not more than 90 days

but renewable up to 6 months) (Law 4/2000, Royal Decree 864/2001 art. 72).

Residency, which in Spain can be temporary (more than 90 days, less than five years) or permanent (granted under certain conditions after five continuous years of authorized residence), better fits in with the semi-permanent or permanent idea of immigration. In terms of residence, the duality is straightforward; one is authorized to reside or not (Law 4/2000, Royal Decree 864/2001 art. 72)

Since, in Spain, working permits are not granted with residency permits, one may legally reside in Spain without having permission to work legally. That is, a person can be: completely undocumented (not authorized to reside nor to work); documented in terms of residency, but undocumented in terms of permission to work; or fully documented, with permission to reside and work (Baldwin-Edwards 1999 p.4).

Under Spanish law, the legal concept of foreign worker differs from the legal concept of immigrant worker. A **foreign worker** is defined in the following way:

Any person who does not have Spanish nationality who works or looks for paid work as an employee or is self-employed in Spain. (Royal Decree 864/2001, art.64.2)

That is, all immigrant workers are foreigners (persons not in possession of Spanish nationality), but not all foreigners are

considered immigrants. For example, the following people are **not** considered immigrant workers: EU citizens; foreign workers who cross the border regularly to work; foreign workers with temporary work visas; diplomats, high posts in business or public administration, artists, researchers, professors or experts with specific and short-term contracts (Royal Decree 178/2003; Law 4/2000; Royal Decree 203/1995; RD 864/2001). That is, Spanish law makes a *de facto* distinction by class and by region.

Whether or not it was the motivation for their migration, the vast majority of people arriving will necessarily have to enter the job market in Spain. Much attention has been given to the sociologic and economic causes and implications of immigration for the Spanish labor market, and for Spanish workers (Economic and Social Council 2004, Pajares 2007, Fernández & Ortega 2006, Cuadrado Roura, Iglesias Fernández, Heras Llorente 2007). Additionally, a body of diverse literature about immigrant groups in Spain is available (Bardají 2006), but there is almost no scientific information about the working conditions and work-related health of immigrant workers. Important issues such as working conditions, occupational hazards, injury, and occupational illness, as well as their implications for immigrant workers and their families, have so far gone largely unaddressed. Furthermore, we lack information about relevant legal and social factors that might affect the occupational health of the immigrant population, such as sex and gender, documentation status, type of work, and other variables of interest as suggested by extant literature.

Data on occupational injury (Ahonen & Benavides 2006, Benavides, Ahonen & Bosch 2008, López-Jacob et al 2008) have shown that foreign workers are at higher risk for occupational injury than Spanish workers. The variable nationality was added to the registry of occupational injuries in 2003. That year, data had significant flaws in classification for that variable which caused difficulties in analysis. The problem has improved in subsequent years, and has allowed for better analyses. However, it is extremely important to mention that immigrant workers who are not registered with the Social Security system (workers without a contract or who are undocumented) and are injured as part of their work are not included in the data, as is the case for most official registries.

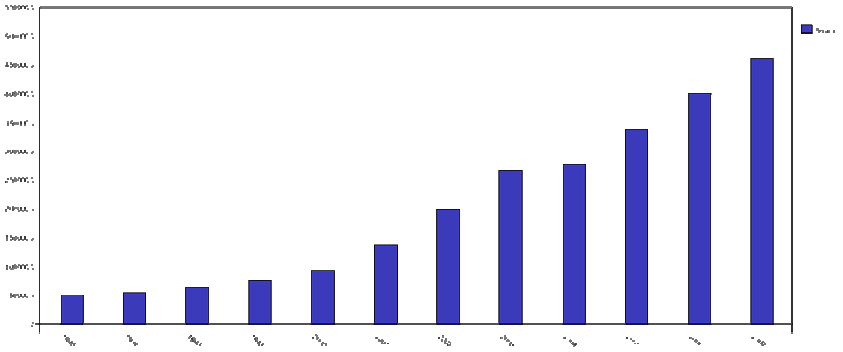
Increase in immigrant presence is a matter of social interest in Spain. This increase in the population and in the workforce has been rapid. Given such magnitude and relevance, it will be important to keep abreast of social and labor circumstances that may affect the health of immigrant groups.

These "groups" are heterogeneous and mobile, cycle between documented and undocumented administrative status, are frequently employed in informal jobs, and as such are administratively invisible. Consequently, they are a difficult group to study through current occupational statistics, and such statistics do not to capture the reality of undocumented workers. Data from other contexts tell us that immigrant workers may be at increased risk for poor working conditions and their potentially negative health effects. The current lack of information in a Spanish context constitutes an important hole

in public health knowledge. Understanding the specific working conditions of immigrant workers and the circumstances that surround and influence those conditions is vital for multiple aspects of good public health practice. Improving surveillance of this population, designing appropriate epidemiologic studies, and implementing effective policy and workplace interventions to prevent injury and disease all depend on the availability of broad, accurate data. In order to address the limitations of current knowledge, we carried out an exploratory and descriptive qualitative study with five immigrant groups in five Spanish cities.

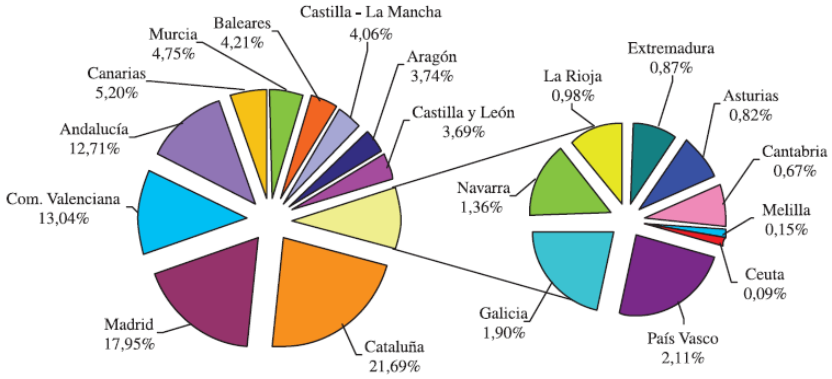
1.3 Tables and figures

Figure 1. Residents with foreign nationality. Spain (1996-2007)



Source: Eurostat

Figure 2. Foreigners with active residency permission by autonomous community as of 12-31-07.



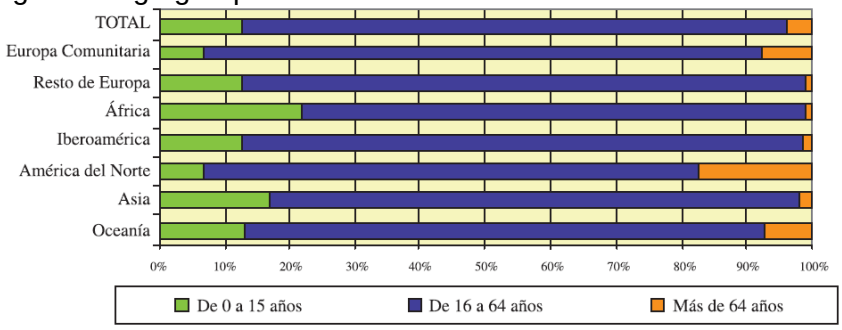
Source: Ministry of Labor and Social Affairs, 2008

Table 1. Population percentages (16 years and older) by educational attainment.

Total	Total Spanish population 100.0	European Union foreign population 100.0	Non-European Union foreign population 100.0
Illiterate	2.2	0.8	2.8
Primary education	30.4	10.8	23.5
Secondary education	44.9	49.9	57.5
Post-secondary education	22.4	38.5	16.2

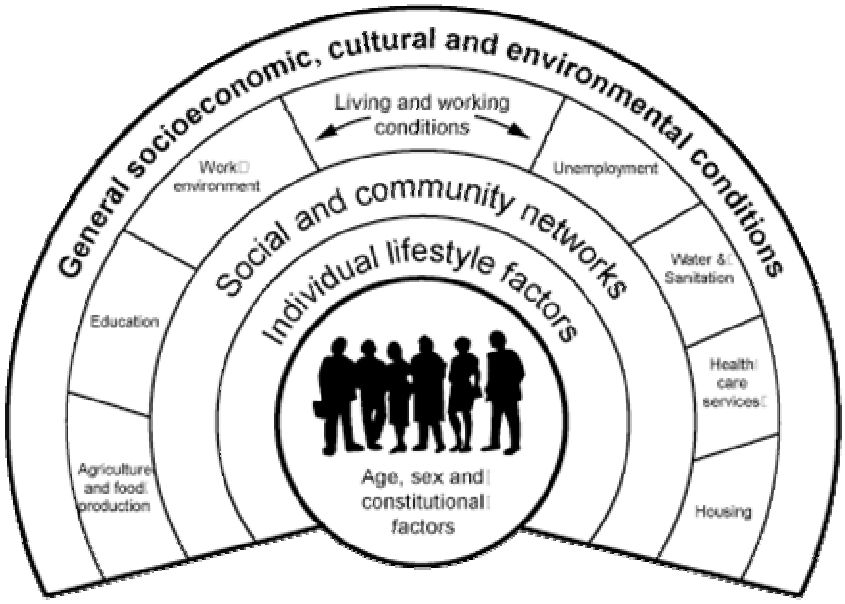
Source: Pajares M 2007

Figure 3. Foreigners with active residency permission by continent of origin and age group as of 12-31-07



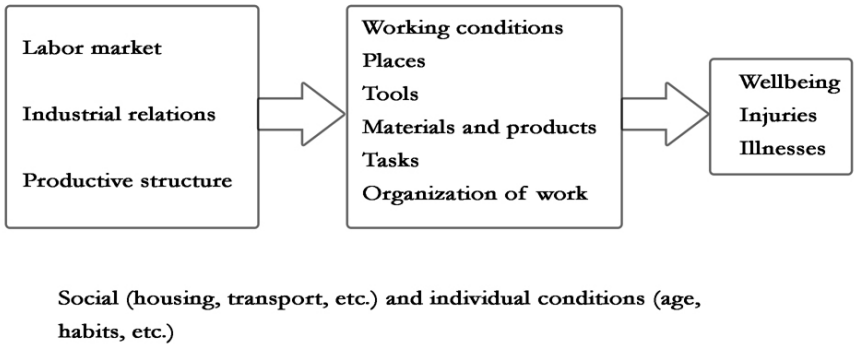
Source: Ministry of Labor and Social Affairs, 2008

Figure 4. Model of health determinants



Source: Dahlgren G, and Whitehead M in the Acheson Report (1998)

Figure 5. Occupational health causation model



Adapted from Benavides FG, coordinator, 2006

1.4 Study questions, purpose and objectives

Study questions

- What are the working conditions of various immigrant groups in Spain? How do the workers experience them?
- What things do immigrant workers believe influence their working conditions?
- Do immigrant workers perceive hazards in their work? Do they believe their work affects their health?
- Do gender or documentation status influence worker perception of hazards?

Purpose

To address the lack of occupational health information on immigrant workers by increasing knowledge about the conditions in which immigrant groups in Spain work through the perceptions of the workers themselves.

General objective

To examine the working conditions, hazards, influencing factors and effects on health experienced by immigrant workers in Spain.

Specific objectives

1. To describe the working conditions and health effects experienced by immigrant workers in Spain.

2. To understand the factors that influence working conditions and exposure to hazards in immigrant workers in Spain.
3. To examine the specific occupational hazards perceived by working immigrant women in Spain, and the effects they believe their work has on their health.

2. METHODS

2.1 Design and setting
2.2 Phases of study
2.3 Sample
2.4 Data collection
2.5 Data analysis
2.6 Data quality
2.7 Sample socio - demographics

2. METHODS

2.1 Design and setting

This study was exploratory and descriptive. An exploratory study design is employed when little previous description exists about the study subject. In such a study, the aim is to identify themes and composition within the study subject, and to generate hypotheses for future study. A descriptive study intends to document and describe and phenomenon and how it comes to pass in greater detail and depth (Marshall & Rossman 1990). Here we aimed to do both.

The study took place in five Spanish cities: Alicante, Barcelona, Huelva, Madrid, and Valencia. These cities range in size from about 146,000 people in Huelva to over three million in Madrid. All five cities have in common substantial immigrant populations that closely match the places of origin of the majority immigrant groups in the whole of the Spanish state. In Spain, individuals from Colombia, Morocco, sub-Saharan Africa, Romania and Ecuador make up 50.4% of the documented foreign population. In the study cities, these same groups represent 44.2% of the total documented foreign population (Ministry of Labor and Social Issues. Foreigners with current card or residency permission as of 31 December, 2007).

2.2 Phases of study

This study had three preliminary phases. As a first step, all groups involved in the project agreed upon a conceptual framework for the project, which lead to consensus on working definitions,

inclusion/exclusion criteria that were common among all groups, development of themes for interview topic guides, and a potential profile of participants for each study site. Once this framework was in place, each group conducted preliminary fieldwork within its geographic area. Preliminary fieldwork consisted of compiling a list of associations, unions and non-profits that worked with the resident immigrant group, establishing contact, and interviewing key informants both within the associations and suggested by them about their work and experiences with immigrant groups. Each group performed its own fieldwork, with coordination from the Barcelona group and meetings of the entire group to report on progress, challenges, and successes. Finally, material was analyzed. Each group performed analyses on their own data, and data were compared among the five groups (García et al 2008). In Barcelona, the topic guide was also tested with two Moroccan informants. Third, from this information, the participant profiles were further specified depending on presence in the city, accessibility, and research priorities, and the data collection technique to be employed at each site was chosen. From there, we continued on to the definitive fieldwork phase.

2.3 Sample

In qualitative research, sampling is purposeful, as compared to the idea of random sampling in quantitative methodology. The goal is not a representative, randomly selected sample of the population under study but rather a sample of information-rich cases selected for their potential for providing information on the topics of central importance to the study. Another of the characteristics of qualitative

methodology is the ability to modify the planned sampling strategies as research progresses if information gained in the field supports the change (Patton 1990 p.186, Miles & Huberman 1994 p. 27).

In this study, criterion sampling was used to select informants (Patton 1990 p. 169-183, Miles & Huberman 1994 p.28). A criterion sampling strategy means that a set of desired characteristics, or criteria, guides selection of subjects. The criteria are developed from a theoretical framework. This strategy is useful for controlling the quality of the data obtained.

Here, selection criteria were: to not possess Spanish nationality, that of a European Union-15 country, the European Economic Community, or the Swiss Confederation; be permanent or long-term residents (one year or more) in Spain; not married to a Spanish citizen; both sexes, both documented and undocumented status; to have working experience in Spain (at least three months total); and to belong to collectives with greatest presence in Spain, depending on the city. Documented individuals were those authorized to reside in Spain, undocumented were those who were not. The criterion of not being married to a Spanish citizen was established because those individuals have an alternate path to legal residence through their spouse which also facilitates the process of obtaining a work permit.

Originally, participants were to be chosen from only one nationality group per study site. In Huelva, however, that criterion was modified. The seasonal nature of the mostly agricultural work performed by immigrant workers there meant that the collectives available depended

on the time of year. Given that factor and the difficulty of uniting groups of any one nationality, the initial sample design was modified there. Participants hailed from various sub-Saharan African countries (Senegal, Nigeria, Zimbabwe, Mali, Ghana, Mauritania, Burkina Faso, Equatorial Guinea, and Guinea Bissau). At the other sites, participants were selected from Morocco in Barcelona, from Romania in Madrid, Colombia in Alicante, and Ecuador in Valencia. All sites sought maximum variation in terms of age and occupational sector.

In addition, another selection criterion was modified as fieldwork progressed. Initially, participants were to have strong enough Spanish-language skills to participate in the study in Spanish in order to be included. However, as the study progressed it became obvious that requiring Spanish language ability was limiting our ability to gain the perspective of more recently arrived, often undocumented individuals from non-Spanish-speaking countries. Therefore, we prioritized gaining the perspective of such Moroccan (n=6) and sub-Saharan (n=28) individuals and included them in the study through the use of interpreters. Likewise, the required length of time of residence was relaxed for the same reason in a few cases, allowing the inclusion of information-rich cases with less experience in Spain.

Researchers made contact with potential participants in a variety of ways, mostly determined by characteristics of the population: through organizations who worked with immigrants, through references from other participants, posters, and direct recruitment by the researchers in local stores, phone centers, markets and neighborhoods. In total, of the 158 informants interviewed, 99 were documented and 59

undocumented. Ninety were men and 68 were women. Eighty-three individuals participated in focus groups and 75 through individual interviews. The final sample size was determined by saturation of the discourse, meaning that conducting more interviews or focus groups would not likely have yielded new information. A summary of participant socio-demographic data, educational attainment, and current industry can be found in Tables 2, 3 and 4.

2.4 Data collection

Interviewing is a standard data-gathering technique used in qualitative research. Simply put, it is a conversation in which questions are formulated and answers are obtained, which differs from an everyday conversation in that it aims at obtaining information (Vázquez Navarrete et al 2006 p.54). An interview may be structured, semi-structured or unstructured, as well as in an individual or group format. The characteristics of the interview will depend on the purpose of the research being conducted and the themes involved (Fontana & Frey 1994 p.365).

An individual interview explores the themes under investigation through questions on an individual basis, investigator and informant. A group interview explores investigation themes by group discussion; that is it gathers data from more than one person at once. One type of group interview is a focus group. Not all authors characterize a focus group in the same way. Key elements, however, are that the interaction of the group members is purposeful and is used to gain information understood to be enriched by interaction (García

Calvente & Mateo Rodríguez 2000, Vázquez Navarrete et al 2006 p.65), that the number of participants is limited, and that the people who compose a focus group should be more or less homogeneous in terms of the key criteria used in their selection (Vázquez Navarrete et al 2006 p.65).

Data were collected between September 2006 and May 2007 through semi-structured focus groups and individual interviews, using a topic guide. Focus groups (versus another group interview technique) were an appropriate choice because of our desire to have the perspectives and opinions of people with experience in the specific areas under study (immigration, work and health) (Vázquez Navarrete et al 2006 p.65). We chose to use individual interviews or focus groups depending on the immigrant collective and the recommendations obtained in preliminary fieldwork. For example, key informants in Barcelona believed that Moroccan participants would be unlikely to discuss their migratory and work experiences in front of peers, and suggested that individual interviews would be more appropriate. In keeping with the theoretical focus developed for the study, which posited that gender and legal status would be important factors in determining individual experience, in focus groups participants were separated by those factors. That means that people who were documented and undocumented were not mixed into the same focus group, nor were men and women. Both interviews and focus groups took place in organizations and associations that ceded their space, cultural centers, meeting rooms in urban hotels, and occasionally in the participants´ workplaces or in their homes. Effort was made to

choose the available space in which informants would feel most at ease.

In both techniques we employed a semi-structured style, which means that an interview guide is used to guide the conversation in line with the study themes, but the order of the questions and some subsequent probes are open and the investigator uses her judgment in that respect (Vázquez Navarrete et al 2006 p.55). Our topic guide was developed by research group consensus, and covered various elements of migratory and working experience and health. The themes were compiled from gray and published literature, study interests, and on the information gained from the preliminary key informant study. The guide varied somewhat by the local interests at each research site, and aimed to be open enough to allow for the exploratory and descriptive nature of the study, but core themes were present in every version to allow for their analysis using data from all sites and to permit future use of the data in the development of a survey tool (Miles & Huberman 1994 p.36). Core themes addressed documentation status, work experience in Spain, working and employment conditions, occupational hazards, prevention, general health, work-related health, and work-related hopes for the future. The topic guide for the Barcelona group is included in the Appendices.

We obtained informed consent to participate from each informant prior to participation in the study. We explained the study objectives, answered questions, and provided information on confidentiality of data and participant identity. Demographic data were collected on a separate data sheet. Participants received a modest economic stipend

for their participation at all sites but Alicante. All sessions were audio-recorded and transcribed by parties external to the research groups as research progressed. Transcripts from interviews and focus groups were reviewed for accuracy by the researchers who conducted them as they were received. After corrections and approval of the transcriptions, they were archived by researchers. When needed, responses were clarified in follow-up interviews. Individual interviews lasted an average of 45 minutes and focus groups 90 minutes.

2.5 Data analysis

Initial analyses began while fieldwork was still in process (Patton 1990 p.377-378, Thorne et al 2004). These took the form of written interview summaries (or "contact summaries", as described by Miles & Huberman 1994) and conversations among researchers (recorded and circulated in writing by the project coordinators) to keep track of insights and ideas, to add additional potential categories and ideas for exploration and analysis, and to discuss challenges in the field and improve subsequent data collection. Analyses were supported by the Atlas.Ti® (Scientific Software Development 1997) program, which is a data management program that facilitates sorting and retrieval of qualitative data, though intellectual analysis is left to the researcher.

We used narrative content analysis to examine data. This kind of analysis examines "manifest" content; that is, what is expressly stated that can be described and analyzed and whose meaning can be interpreted (Vázquez Navarrete 2006 p.99). It refers to the process of identifying, naming (coding) and categorizing patterns in the data.

(Patton 1990 p.381) Data were segmented for analysis by documentation status, sex, and nationality. A mixed-generation scheme was used. In such analyses, data are initially sorted (coded) according to pre-determined study interests, which often come from the themes covered in the topic guide, as well as from preliminary analyses during fieldwork. This was the case in our study. Initially, interview and focus group transcripts were read several times on paper to get a general scope of the data. Next, the hard copies were read again, and first-level codes from the interview guide were noted in the margins near relevant portions of text. The transcripts and first-level codes were then transferred to the data management program, and analysis continued with its use. In subsequent phases of analysis, additional codes were added as they were found to be present and relevant within the data. Such codes are sometimes called "emergent" or "inductive".

As analysis and ideas developed, these coded chunks of text were placed into categories, and expanded or collapsed as needed. At this point, the analysis was a process of adjustment as codes and categories were discussed with a second analyst. Transcripts were re-visited to ensure coherence of coding and categorizing. This iterative process is called constant comparison. (Tashakkori & Teddlie 1998. p.123.) We also sought connections between categories that would help to explain the data, with limited use of matrices to organize ideas.

Next, data were reduced through written summaries of the categories, with illustrative quotes from the data compiled alongside the summaries. Finally, results were described in more formal written

style, and differences and similarities were noted by groups of segmentation.

2.6 Data quality

Triangulation is a way of ensuring comprehensive and reflexive analysis, thus improving the quality of a study (Pope & Mays 2000). Several triangulation strategies were employed to improve the quality of the data and conclusions (Miles & Huberman 1994 p.266-267). First, data were triangulated by source (the different immigrant collectives studied in each city) and methods (individual interviews and focus groups). Finally, multiple analysts reviewed the data and findings.

In Barcelona, we attempted to incorporate respondent validation, sometimes called member checking, into our interpretation. Our intent was to present initial results to a group of participants and to obtain their feedback. However, we were unable to convene a group to do so.

2.7 Sample socio – demographics

Table 2. Origin, length of time in Spain, sex, and documentation status of immigrant participants in qualitative ITSAL study. Spain 2008.

Origin*	Age Range [years]	Range of time in Spain [years]	Sex	Docum. Status**		Totals
				Doc	Undoc	
Colombia	24-60	1.5-15	**Male**	9	1	10
			Female	10	1	11
Morocco	20-52	0.33-22	**Male**	12	11	23
			Female	12	4	16
Sub-Saharan Africa	23-47	0.5-17	**Male**	12	14	26
			Female	2	1	3
Romania	20-52	0.5-7	**Male**	12	5	17
			Female	13	14	27
Ecuador	18-55	0.8-3	**Male**	10	4	14
			Female	7	4	11
Total range	**18-60**	**0.33-22**	**Total participants**	**99**	**59**	**158**

*** Groups are ordered by alphabetical order of the city in which they were interviewed**
**** Documentation status: Doc.= documented, Undoc.= undocumented**

Table 3. Current industry and educational attainment of immigrant informants by sex and documentation status. ITSAL Project, Spain 2008.

	Sex and Documentation status			
	Women [n=68]		**Men [n=90]**	
	Documented [N=44] 28%	**Undocumented [n=24] 15%**	**Documented [n=55] 35%**	**Undocumented [n=35] 22%**
Educational attainment				
Unknown	2	2	4	2
No formal education	2	1	0	0
Primary school	7	3	8	10
Secondary school	21	14	19	15
University studies	12	4	24	8
Total	44	24	55	35
Industry*				
Agriculture	2	1	7	12
Retail	2	0	5	1
Construction	0	0	15	6
Household service	27	20	1	1
Education	0	0	0	1
Manufacturing	2	0	4	4
Other services	6	2	14	1
Accommodation & food services	8	5	9	3
Unemployed	1	0	3	6
Pluri-employed individuals	7	4	3	0

* In this category, the number of jobs held in each category is listed, not the number of individuals; individuals are included in the industries of their various jobs in the case of pluri-employment, meaning that the number of jobs listed is greater than the number of participants

Table 4 Demographic and educational attainment information of female immigrant informants employed in household services, by documentation status, in qualitative ITSAL study, Spain, 2006-2008.

Origin	Age Range [years]	Range of time in Spain [years]	Educational attainment	Docum. Status*		Total participants from origin
				Doc.	Undoc.	
Colombia	28-55	4.0-7.5	Unknown	0	0	**7**
			Primary school or less	1	0	
			Secondary school	5	0	
			Some university studies, professional training or university	1	0	
Morocco	26-53	1.0-22.0	Unknown	0	0	**8**
			Primary school or less	3	1	
			Secondary school	1	1	
			Some university studies, professional training or university	2	0	
Senegal	33	3.0	Unknown	0	0	**1**
			Primary school or less	1	0	
			Secondary school	0	0	
			Some university studies, professional training or university	0	0	

Table 4 CONTINUED
Demographic and educational attainment information of female immigrant informants employed in household services, by documentation status, in qualitative ITSAL study, Spain, 2006-2008.

Origin	Age Range [years]	Range of time in Spain [years]	Educational attainment	Docum. Status*		Total participants from origin
				Doc.	Undoc.	
Romania	20-50	0.6-5.0	Unknown	2	2	**23**
			Primary school or less	0	0	
			Secondary school	3	9	
			Some university studies, professional training or university	5	2	
Ecuador	20-43	3.0-7.0	Unknown	0	0	**7**
			Primary school or less	2	2	
			Secondary school	1	1	
			Some university studies, professional training or university	1	0	
Total range	**20-55**	**0.6-22.0**	**Total participants**	**28**	**18**	**46**

* Doc. = documented, authorized to reside in Spain Undoc. = undocumented, not authorized to reside in Spain

3. RESULTS

3.1 Manuscript 1
3.2 Manuscript 2

3.1 Manuscript 1

A qualitative study about immigrant workers´ perceptions of their working conditions in Spain

Emily Q Ahonen [1], Victoria Porthé [1], María Luisa Vázquez [2], Ana María García [3], María José López-Jacob [4], Carlos Ruiz-Frutos [5] Elena Ronda Pérez [6], Joan Benach [1], and Fernando G Benavides [1], for the ITSAL Project [7]

[1] Department of Experimental and Health Sciences, Occupational Health Research Unit, Universitat Pompeu Fabra. CIBER Epidemiology and Public Health. Barcelona, Spain
[2] Health Policy Research Unit, at Catalonia Hospitals' Consortium, Barcelona, Spain
[3] Department of Preventive Medicine and Public Health. University of Valencia, Spain, and Trade Union Institute for Work, Environment and Health [ISTAS], Valencia Spain
[4] Trade Union Institute for Work, Environment and Health [ISTAS], Madrid, Spain
[5] Department of Biology and Public Health. University of Huelva, Huelva, Spain
[6] Department of Public Health, University of Alicante. Alicante, Spain
[7] Other researchers in the ITSAL Project: Andrés Alonso Agudelo-Suárez (Faculty of Dentistry, University of Antioquia, Medellín, Colombia, and Area of Preventive Medicine and Public Health, University of Alicante), Ramón Castiñeira (University of Huelva), Aitana Garí (Trade Union Institute for Work, Environment and Health [ISTAS), Diana Gil (University of Alicante), Gema Paramio (University of Huelva), Ignacio Velásquez (University of Huelva).

Corresponding author:
Emily Q. Ahonen
Occupational Health Research Unit
Carrer Doctor Aiguader, 88
Barcelona Biomedical Research Park
08003 Barcelona, Spain
Telephone: +34 93-316-0816

Fax: +34 93 316 0410
Email: emily.ahonen@upf.edu

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Keywords: immigrant, working conditions, qualitative methodology, health inequalities, occupational health

ABSTRACT

*Objective***:** Spain has recently become an inward migration country. Little is known about the occupational health of immigrant workers. We aimed to explore the perceptions that immigrant workers in Spain had of their working conditions.

Design: Qualitative, exploratory, descriptive study. Criterion sampling. Data collected between September 2006 and May 2007 through semi-structured focus groups and individual interviews, with a topic guide. One hundred fifty-eight immigrant workers (90 men/68 women) from Colombia (n=21), Morocco (n=39), sub-Saharan Africa (n=29), Romania (n=44), and Ecuador (n=25), who were authorized (documented) or unauthorized (undocumented) residents in five mid- to large-size cities in Spain.

Results: Participants described poor working conditions, low pay, and health hazards. Perception of hazards appeared related to gender and job sector. Informants were highly segregated into jobs by sex, however, so this issue will need further exploration. Undocumented workers described poorer conditions than documented workers, which they attributed to their documentation status. Documented participants also felt vulnerable because of their immigrant status. Informants believed that deficient language skills, non-transferability of their education and training, and most of all their immigrant status and economic need, left them with little choice but to work under poor conditions.

*Conclusions***:** We must address the occupational health needs of immigrant workers on a job level, while improving enforcement of existing health and safety regulations, and consider the roles that

documentation status and economic need played in these informants´ work experiences and how these may influence health outcomes.

INTRODUCTION

Global human migration is currently on the rise.[1-3] Migratory patterns in Spain have changed dramatically over the last several decades, transforming the country from one of internal movement and net emigration to one that is now considered an ´inward migration´ country.[3] It is currently estimated that about 4,482,600 foreign migrants live in Spain, accounting for 10% of the total population.[4] The vast majority of migrants will necessarily enter the job market in Spain.

Work is thought to influence health unequally within populations through: the type of work available geographically, gender and ethnicity, the skills, training, and education that affect individual access to work, and through job assignment. These factors in turn determine what one is exposed to in the workplace, as well as one's access to income and other benefits derived from work.[5-6] Studies have suggested poor employment and working conditions in immigrant and some ethnic groups as evidenced by poor perceived health, work-related health problems, and injuries.[3, 7-14] Furthermore, data on occupational injury in Spain suggest an elevated risk in foreign workers.[15-17] With the previous exception, available data on occupational health in immigrants to Spain is extremely limited [18].

This paper presents one aspect of the findings of a larger study conducted in five Spanish cities (the ITSAL Project, in its Spanish acronym). Its general objective is to study the working conditions and characteristics of precarious employment in immigrant workers and their relation to health. It does so through: the analyses of available

occupational injury data on foreign workers; qualitative interviews and focus groups with immigrant workers; and a questionnaire developed with the information obtained in the previous phases of study. Each of the three sub-studies fed into development of subsequent phases. Here, we present data obtained from the qualitative interviews and focus groups, aiming to analyze the perceptions that immigrant workers in Spain had of their working conditions.

METHODS

Design and setting

This qualitative, exploratory and descriptive study was carried out in five cities in Spain: Alicante, Barcelona, Huelva, Madrid and Valencia. An exploratory study design is appropriate when little previous description exists about the study subject, and the aim is to identify themes and composition within the subject, and to generate hypotheses for future study. A descriptive study intends to document and describe and phenomenon and how it comes to pass in greater detail and depth [19]. The study cities range in population from about 146,000 in Huelva to over 3 million in Madrid, and have sizeable immigrant populations. In Spain, individuals from Colombia, Morocco, sub-Saharan Africa, Romania and Ecuador make up 50.4% of the documented foreign population. In the study cities, these same groups represent 44.2% of the total documented foreign population.[20]

Participants

This study employed criterion sampling, which uses a theoretical framework to guide selection of participants according to established criteria.[21] Selection criteria were: nationality other than the Spanish, European Union-15, or other high-income countries; at least one years' residence in Spain; both sexes, both documented and undocumented residency status; at least three months' total working experience in Spain; and to belong to a nationality group with greatest presence in Spain. Consequently, participants selected were from Morocco, Romania, Colombia, sub-Saharan Africa, and Ecuador. One nationality group was selected per city, but for reasons of

confidentiality that information is not presented here. At the time of the study, Romania had not been incorporated into the European Union.

Because of regional peculiarities in one study city which determine the immigrant groups present at a given time, the initial sample design was modified there to include participants based on regional origin instead of one national origin. Participants hailed from various sub-Saharan African countries (Senegal, Nigeria, Zimbabwe, Mali, Ghana, Mauritania, Burkina Faso, Equatorial Guinea, and Guinea Bissau). All sites sought maximum variation in terms of industry and age.

Lacking moderate fluency in Spanish was originally a cause for exclusion from the study. However, this criterion limited data collection in recently arrived undocumented individuals. Such individuals from Morocco and sub-Saharan Africa were then included in the study by using interpreters. The interpreter for sub-Saharan participants was a male, Spanish member of the research team. The interpreter for the Moroccan participants was a male Moroccan cultural mediator employed by the researchers. Likewise, the required length of time of residence was relaxed in a few cases, allowing the participation of information-rich cases with less experience in Spain.

Researchers made contact with immigrant workers in a variety of ways: through organizations who worked with immigrants, the snowball method, posters, and direct recruitment by the researchers in local stores, phone centres, markets and neighbourhoods. Participant characteristics from the final sample of 158 workers can be found in

Tables 1 and 2. In all, 99 participants were documented and 59 undocumented. Ninety were men and 68 were women. Eighty-three individuals participated in focus groups and 75 through individual interviews. The final sample size was determined by saturation of the discourse, or redundancy, [21] meaning that collecting additional data does not yield new information relevant to the primary study questions.

Table 1. Origin, length of time in Spain, sex, and documentation status of immigrant participants in qualitative ITSAL study. Spain 2008.

Origin*	Age Range [years]	Range of time in Spain [years]	Sex	Docum. Status**		Totals
				Doc	Undoc	
Colombia	24-60	1.5-15	**Male**	9	1	10
			Female	10	1	11
Morocco	20-52	0.33-22	**Male**	12	11	23
			Female	12	4	16
Sub-Saharan Africa	23-47	0.5-17	**Male**	12	14	26
			Female	2	1	3
Romania	20-52	0.5-7	**Male**	12	5	17
			Female	13	14	27
Ecuador	18-55	0.8-3	**Male**	10	4	14
			Female	7	4	11
Total range	**18-60**	**0.33-22**	**Total participants**	**99**	**59**	**158**

*** Groups are ordered by alphabetical order of the city in which they were interviewed**
**** Documentation status: Doc.= documented, Undoc.= undocumented**

Table 2. Current industry and educational attainment of immigrant informants by sex and documentation status. ITSAL Project, Spain 2008.

	Sex and Documentation status			
	Women [n=68]		Men [n=90]	
	Documented [N=44] 28%	Undocumented [n=24] 15%	Documented [n=55] 35%	Undocumented [n=35] 22%
Educational attainment				
Unknown	2	2	4	2
No formal education	2	1	0	0
Primary school	7	3	8	10
Secondary school	21	14	19	15
University studies	12	4	24	8
Total	44	24	55	35
Industry*				
Agriculture	2	1	7	12
Retail	2	0	5	1
Construction	0	0	15	6
Household service	27	20	1	1
Education	0	0	0	1
Manufacturing	2	0	4	4
Other services	6	2	14	1
Accommodation & food services	8	5	9	3
Unemployed	1	0	3	6
Pluri-employed individuals	7	4	3	0

* In this category, the number of jobs held in each category is listed, not the number of individuals; individuals are included in the industries of their various jobs in the case of pluri-employment, meaning that the number of jobs listed is greater than the number of participants

Data collection methods

Data were collected between September 2006 and May 2007, through semi-structured individual interviews and focus groups, both using a topic guide. The guide explored migratory and working experience and health. Themes were based on published and grey literature, study interests, and on a preliminary study with key informants in each study site.[18]

In focus groups, participants were segregated by sex and documentation status; in interviews respondents were sought who fit those four profiles. Sessions took place in community organizations and associations, cultural centres, meeting rooms in urban hotels, and occasionally in the participants´ workplaces or homes. They were conducted in Spanish by members of the research team. All data-gathering aided by interpreters was done through individual interviews. Consent to participate was obtained from every participant prior to participation. Informants received a modest economic stipend for their participation except in Alicante, where a limited research budget did not allow for stipends. All sessions were audio-recorded and transcribed in Spanish. Individual interviews lasted an average of 45 minutes and focus groups 90 minutes.

Data analysis

After review of the transcripts, texts were analyzed by narrative content analysis, with support from the Atlas.Ti® [22] program. Data were stratified for analysis by documentation status and sex. A mixed generation of categories organized the sorting of data: the initial categories were derived from the interview guide and others were

identified in the data as analysis continued. These categories were broadened or collapsed as analysis matured through constant comparison.

All analyses of data were done using the Spanish-language transcripts. As we began to draft this paper, relevant extracts from the data were chosen for use in the manuscript. At that point, the extracts used here were translated from Spanish to English by the first author, E.A. In the case of those participants who spoke through interpreters, any extracts presented here are the interpretation of the original statement by the interpreter, subsequently translated into English. In cross-cultural and cross-language research, it is sometimes necessary to "convey meaning using words other than literally translated equivalents".[23] As such, readers should be aware that the extracts used here are the translator's best attempt at a rigorous transmission of concept from source to target language rather than a word-for-word rendering of participant statements.

Quality of data

Several triangulation strategies were employed to improve the quality of the data and conclusions.[24] First, data were triangulated by source (the different immigrant groups studied in each city) and methods (individual interviews and focus groups). Multiple analysts reviewed the data and findings. Differences among analysts were addressed by discussion among analysts and by returning to the original data until a consensus was reached.

RESULTS

The final broad categories of analysis were working conditions, perception of hazards, and influence of immigrant status. Here, data from those initial coding categories and emerging sub-categories are structured into four narrative sections that summarize the main findings thematically. Extracts are labelled in the tables by documentation status, sex, and data collection method (focus group (FG) or individual interview (II) participation). Ellipses signify that a portion of the original statement was omitted for clarity. Unless specifically noted, no differences were found by documentation status or sex.

Overview of working conditions

When asked about the conditions in their jobs, informants described them as "hard", "tough", and "heavy". One respondent said he did the same work as the "crane" did. Such descriptors were repeated regardless of documentation status and sex. Beyond those general qualifications, their perceptions of conditions at work were determined by their jobs. Informants routinely expressed the belief that these were the jobs available to them as immigrant workers, and many mentioned that this type of work was what Spaniards did not want or would not accept. Many were employed in small businesses. They believed that the conditions there were generally poorer and less regulated than in large businesses.

Working conditions and hazards

When invited to discuss their working conditions more specifically, informants frequently discussed them in terms of hazards, especially

those in construction and agriculture. Many in these occupations felt that their jobs were very hazardous. They described safety deficiencies and the potential for injury due to falls, cuts, fallen objects, tools, sharp objects, poorly maintained equipment, and carrying weight. Some also mentioned exposure to dust and chemicals (Table 3, a).

Those in other industries described workplace conditions with somewhat less concern. Risks described by these participants were mostly associated with excessive noise, repetitive or awkward movement, standing for long periods of time, sharp objects, and temperature conditions (Table 3, b).

While most participants at first had some difficulty discussing their working conditions, women often seemed more ambivalent, especially about potential hazards. When given examples of things they might have experienced at work, some women explained that while they had ergonomic risks in their jobs, the same chemical hazards they had in their jobs were present in their unpaid work (Table 3, c).

Participants' foci were often on the potential for acute injuries, but some described poor conditions that would accumulate in their effects over time. These conditions were related to the heavy nature of their work and the physical stress this put on their bodies (Table 3, d).

Informants also described poor organizational conditions. They believed that their superiors and employers were more concerned with high production than with good working conditions. Many felt that the amount of work they were given to complete during their shifts

was excessive, and others complained that their superiors pressured them to work faster. They worried about the potential dangers of this rushing for accidents, and many admitted that although they knew of a "right" ergonomic method for performing their work, it was the first thing to go when they were in a hurry (Table 3, e).

Pay was frequently mentioned in tandem with discussion about working conditions. Informants believed that those conditions were not reflected in their wages. Most believed they were paid poorly, with reported salaries ranging from about 300 euros to 1,200 euros a month. Some also mentioned the lack of alternate forms of recognition for hard work such, and felt that they were not valued as hard workers (Table 3, f).

Working time was another key organizational element discussed by participants. Almost all informants reported working long hours with few days off. Many undocumented informants also worked night or rotating shifts, and several respondents had more than one job out of economic necessity. Participants, especially those who worked in restaurants or bars, mentioned the difficulty of managing a known entry but not exit time, and many discussed the long time periods they spent commuting to and from work (Table 3, g).

The consequences of long working time were that informants felt fatigued and overwhelmed. They had difficulty maintaining physical and mental energy, getting enough sleep, having time for unpaid work, and leisure time. They believed this had health consequences (Table 3, h).

Certain organizational risks were especially present in the perceptions of the women. They discussed the monotony of their tasks, the interpersonal challenges of working in the homes and lives of others in household services, and the fact that many were doing work that was very distinct from their education or training and their professional expectations (Table 3, i).

Table 3. Selected data related to perceived working conditions and hazards in immigrant informants in order of reference to them in text. ITSAL Project, Spain.

a	*In the world of construction…it´s where you always have to climb up high, setting up scaffolding, setting down planks…that is, there´s always risk in construction activity, you know?* (documented man, FG)
a	*In the fields…what can I tell you? It's really tough for a woman, really, really tough, lots of risk of, I don't know, getting stuck all over the place with branches, in your eyes, scratches, falling down…* (undocumented woman, FG)
b	*I´m not in extreme situations where I could have an accident like that, I mean, you can cut yourself with a meat slicer, but those are things you have to learn as you work, you have to be careful.* (documented man, II)
c	*I think the risks involved in cleaning are, well, cleaning windows, high up and you have to lean way over, half your body is out in the air to clean the window, I see that as one of the risks, because the rest of it, no, it's like what one does at home…* (undocumented woman, II)
d	*You can get sick in your circulatory system because of being on your feet all day, because if every day you work 11 hours, every day, you're on your feet.* (Documented man, II)
e	*Even though I've seen in videos, like I said, because of being in a hurry, to get done, get home sooner, seeing all the work you've got accumulated, and...it seems like the time isn't going anywhere, you want to get done, and you do it badly...,.* (undocumented woman, FG)
f	*Does that seem right to you, working 24 hours with a sick person? And then they pay you 600 euros [about $850-900] at the end of the month?* (documented woman, FG)
f	*You´re not valued, you´re not valued, but you´re working hard (documented man, FG)*
g	*Here you never know the exact time [that work ends], because today, for example, we came in at 11:00 and we don´t know what time we´ll finish, because before we worked 11, 12, even 15 hours, depending on the amount of strawberries there were.* (documented man, II)
g	*I worked all afternoon and all night almost, you know? I worked from 2 [p.m.] until almost 1 [a.m.]… / …as a waiter, between travel time and actual working time, it was almost 14 hours or something like that, I mean, it was terrible…* (undocumented man, II)
h	*For example, imagine, working as a waitress like they do now, you don't work 8 hours but rather 16 or 14, imagine what it is to be on your feet after so much time, when tomorrow you have to go back and do the same shift, you´re destroyed, you go home on all fours and the only thing you´re dreaming of is your bed…you don´t even have weekends lots of times.* (documented woman, FG)
h	*Man, your health gets worse over time, so much work, so many hours, lots of night work* (Documented man, FG)
i	*Obviously, we're all here doing different work than what we did at home, here we're all cleaning, caring for kids and old people.* (Documented woman, II)

Formal hazard prevention

While some documented informants had had training in hazard prevention, few of the undocumented had received such training. In construction, an industry that gets significant attention for its risk and practices, many participants explained that the approach to safety was perfunctory. Informants frequently described being asked to sign a paper saying they had received safety training, personal protective equipment, or both, whether or not they had. They described asking multiple times for improvement in safety standards or for better equipment that never arrived. Many documented and undocumented workers eventually bought their own personal protective equipment.

A less mentioned but not less relevant aspect of training was job training. Given that many participants worked in jobs that were not familiar to them, learning to do the job correctly and safely would be the first step to overcoming their lack of experience. It appeared that this training was largely informal and based on on-the-job observation of more experienced colleagues.

"Papers", immigrant status, and "no choice"

Documentation and immigrant status and the economic importance of work came up with tremendous frequency among participants, in connection to almost any topic addressed. Participants felt that their situation was different than that of a native worker in similar work because of their immigrant status. They perceived heavier workloads, more dangerous and heavier tasks, longer hours and poorer pay.

Some related these conditions to working in small businesses that they perceived to be less regulated (Table 4, a).

Undocumented workers directly related their poor working conditions to their lack of "papers", saying that without documentation they did not have access to work under better conditions, their employers took advantage of their status, and at the same time their jobs were the key to maintaining their precarious economic situations. They also believed that they were paid less than those who were in possession of their "papers". Furthermore, many undocumented workers believed that if they proved themselves to be hard workers, their employers would offer them a contract, which they believed would help them achieve documented status (Table 4, b).

While most intensely expressed among undocumented workers, this was not an issue related only to them. Documented workers also felt that their status as immigrants affected their working conditions. They also mentioned being taken advantage of, but in more subtle circumstances (Table 4,c).

Informants felt that they had little room for asking for improvements. They were reluctant to complain to supervisors about these conditions, because they didn't want to have "problems". For undocumented workers, this might mean the loss of their job and their income, or even deportation. For documented workers, who at least initially are dependent on a job to renew their documentation, the loss of a job could also mean the loss of documented status if they did not find another. In the precarious economic situation most informants

were in, many with dependents in Spain or in their home country, the clear priority was to maintain their jobs and their incomes.

In addition, several other factors related to their immigrant status affected the amount of influence participants felt they had over their working conditions. Although these informants were average to well-educated, and many had prior vocational training, these qualifications were by and large not recognized in Spain. Furthermore, lack of language skill was an issue for many of the participants. The long hours they worked and their tight economic circumstances left little room for training or language study, and this limited their hopes of getting a job with better conditions, to have a "choice" about those conditions. Finally, membership in labour unions or other worker rights organisations was extremely low, meaning they had little formal support to turn to with regard to working conditions (Table 4, d).

Table 4. Selected data related to "papers", immigrant status, and "no choice" in immigrant worker participants. ITSAL Project, Spain.

a	*…the people hanging up high are foreigners…(voices) The risk is greater for us, because there are only foreigners in small businesses. So, in a big business where the necessary measures are taken, there are more Spaniards, but of course, well-covered in terms of prevention.* (Documented men, FG)
b	*I´m sure that for other people, for sure they´d be paid more, because since we come and we don´t have work, well, we work for little money because we have to work, and so we accept badly paid work, because in the moment that you have papers you can choose….you have your rights and everything…you can´t choose, you have to accept where you´re accepted.* [undocumented woman, FG]
b	*Yes, papers are the most important, hours not important nor what you have to do, you have to eat.* [undocumented man, II]
b	*You put up with a lot to get those papers* (documented woman, FG)
c	*It´s true, there are lots of people who take advantage of an immigrant, they exploit him, you know? Because maybe…I was working in a hotel where I only lasted a week because I worked 15 hours and I saw…because at first you want the work, you don´t even ask yourself how much you want to make, you know?* [Documented man, FG]
c	*If a Spanish person wants to hire you, obviously he [the employer] can´t avoid laws and has to respect them, but with foreign people, if he can get something in his interests out of it, well, he´ll do it.* [documented woman, FG]
d	*I suppose the primary concern of almost all people who are here, who come from somewhere else is to be able to work, and to be able to work you need documentation, and I suppose that´s the principal thing…the concern is resolving that first, if it´s renewing [working and residency permissions] or the first set of paperwork…once you can work, then I guess that people give little importance to where, how, when, how long…as long as you can get ahead.* (undocumented man, II)
d	*And if you say to him [the boss], for example, `Hey, recognize me for something… I was here for x amount of hours…`, [he´ll say] ´Hell, you know how things are here, if you like it, fine, if you don´t, there´s the door`.* (undocumented man, FG)

DISCUSSION

This study highlights the need to examine the occupational health needs of immigrant workers on a job-specific level, while considering the roles that occupational sex segregation, documentation status and economic necessity played in these informants´ perceptions of their work experiences and how those factors may contribute to health outcomes.

In this study, individuals for whom Spanish was not a first language participated, along with native Spanish speakers. Researchers have pointed out that that interpreters and translators play a part in cross-language research beyond the neutral transmission of information from research subject to researcher [23, 25-27], and that as such the reflexivity that is central to qualitative inquiry should be extended to consideration of the role they play in constructing meaning in research.[25,27] Temple [26] advocates the use of "intellectual autobiography" as a tool for aiding such reflexivity. Indeed, here E.A. was one of the data collectors, analysts, and a translator. She is a native English speaker with Spanish academic training and several years' professional experience both in the United States and in Spain. Her aim in translating the extracts was creating clarity of concepts as she and the other researchers understood them for an English-language audience. We have made efforts to confirm and clarify comments where that was necessary, to "elucidate the experience that is implicated by the subjects".[28] This was done through consultation with the interpreters used in the interviews, by returning to interviewees when necessary, and by discussion among researchers. While it presents challenges, involvement of translators and

interpreters in the research study can be seen to enrich the research process.[29] Even so, it is possible that some detail from people with weaker Spanish skills may have been lost, and certainly E.A.'s translation represents only one of the possible renderings of the data into English.

This sample was average to well-educated (Table 2). Two-thirds (n=117) of the sample had completed secondary school or higher level studies, and many were over-qualified for the work they were doing in Spain. These tendencies have been noted elsewhere, and have been considered as evidence that migrants may be being directed into unskilled jobs with low wages, instability, and potential negative health and safety consequences.[3]

The analysis presented shows that informants perceived health hazards in their working conditions. Their descriptions of long working hours and unfavourable conditions are similar to those described on a European level.[3, 30] This suggests that immigrant workers continue to be a vulnerable population in the workforce. Many women seemed to perceive structural and environmental risks less acutely than men. This probably indicates a relationship to occupation. In this sample, workers were heavily segregated by sex into certain occupations, making it difficult to separate one from the other. Furthermore, the majority of women in the sample worked in household services, which left them performing similar tasks in paid employment as well as at home. Less perception of risk, if it was such, may have been simple pragmatism.

Putting up with poor conditions was not a matter of ignorance on the part of participants. However, many seemed to view poor conditions and risk as inherent parts of work, at least in their status as immigrants. Many informants also felt that their superiors and employers were not concerned with their working conditions. This finding is especially significant when taken in combination with the limited preventive measures described, participants´ economic pressures and their perception of limited possibilities for obtaining improved working conditions. Remarkably similar concerns about safety, production and job insecurity have been reported by Lipscomb and colleagues [31] in a group of mostly white male union carpenters in the United States, a population that, by nature of being organized, should enjoy certain official protections. Given those results, they emphasize the need to empower workers in ways that go beyond training. If the immigrant workers in our sample felt that the risks outweighed the benefits of individually advocating for better conditions, and they lacked the formal structure for such advocacy, possibilities for exploitation are high.

The working conditions described here have implications for health inequalities. As Lipscomb et al point out [5], why people work where they do and under what conditions is not only influenced by personal characteristics, but also by larger forces such as the job market, institutional discrimination, and neighbourhood segregation. In this group of workers, immigrant status may well be influencing the jobs and working conditions available to them. Such observations point to the need to look beyond the hazards associated with a specific kind of work to include the social and documentation reality of immigrant

workers as potential sources of occupational health inequalities. For this group of workers, working conditions and documentation situation were directly related, which may be especially important given that many of the workers were in informal work arrangements.

Implications for policy and research

Several issues relating to policy and research come to light. First, better enforcement of regulations regarding working hours [32] and pay would benefit workers like those who informed this study, most of whom regularly worked hours considered long [33], and for whom collective pay scale agreements seemed to have little influence. The minimum wage established for the year 2008 is 600 euros /month.[34] Though many participants reported salaries that were equal to or above that amount, they also emphasized that they regularly worked long hours and were not compensated for them. Some participants were also paid substantially less. Additionally, it was clear in this study that better enforcement is especially necessary in small and medium-sized businesses.

The presence of immigrant women in household services, an incredibly unregulated industry, deserves attention from research, intervention and policy-makers. For example, laws regarding the prevention of occupational hazards do not currently apply to this group of workers, and formal job contracts are not required.[35,36] This lack of legal protection, and the pervasive invisibility of household workers, leaves them vulnerable to conditions that may be negative to their health and wellbeing.

Future study of occupational health in immigrants should explicitly address documentation issues. Undocumented workers related regularized administrative status with an improvement in working conditions, but documented workers also felt that they occupied vulnerable positions. Initially, maintaining a job and contributions to the Social Security system are necessary to maintain a work permit in Spain. Working permits linked to residency permission (not dependent on a certain job) with longer duration of the permit would also aid in avoiding exploitation. Fear of negative consequences such as job, income or documentation loss or deportation may leave workers unwilling to demand better working conditions. Allowing undocumented immigrants to regularize their status [37] is a step towards addressing this problem, but is not enough to guarantee the rights of those workers. Recent efforts on the part of labour unions to reach out to immigrant workers [3] should be encouraged, as should consideration of their unique needs within the union context.

Finally, as one editorial [38] suggests, occupational safety and health institutions and researchers should continue to evaluate the potential contributions of working conditions and hazards to health inequalities. Spain is in a unique position to pursue improvements in the enforcement of safe working conditions and fair treatment for immigrant workers, which will help to limit negative impacts on their health. But we must make directed efforts to ensure that newly arrived individuals have the chance to integrate through a good-quality jobs.

What this paper adds
What is known • Work is thought to influence health unequally depending on conditions • Studies have suggested poor employment and working conditions in immigrant workers
What this study adds • Workers reported poor job-specific working conditions that they believed negatively affected their health, though they viewed a certain component of risk as inherent to working life in their condition as immigrants. • They believed they had little power to influence their working conditions. This lack of power was related to immigrant status, fear of negative repercussions, and economic necessity. • In a Spanish and European context, efforts should be made to ensure that newly arrived individuals have the chance to integrate through good-quality jobs that will not negatively influence their health.

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3.2 Manuscript 2

At time of printing, this manuscript is under review; the version presented here includes some reviewer-suggested changes, the rest of which are almost completed.

Invisible work, unseen hazards: the health of women immigrant household service workers in Spain

Emily Q. Ahonen, MPH [1]; María José López-Jacob, MD [2]; María Luisa Vázquez, PhD [3]; Victoria Porthé, MPH [1]; Diana Gil-González, PhD; [4] Ana María García, PhD [5]; Joan Benach, PhD [1]; Fernando G. Benavides, PhD [1]; for the ITSAL Project

[1] Department of Experimental and Health Sciences, Occupational Health Research Unit, Universitat Pompeu Fabra. CIBER Epidemiology and Public Health Spain (CIBERESP).
[2] Trade Union Institute for Work, Environment and Health [ISTAS], Madrid, Spain
[3] Health Policy Research Unit, at Catalonia Hospitals' Consortium, Barcelona, Spain
[4] Preventive Medicine and Public Health Area. University of Alicante. Spain.
[5] Department of Preventive Medicine and Public Health. University of Valencia, Spain, and Trade Union Institute for Work, Environment and Health [ISTAS], Valencia, Spain

Corresponding author:
Emily Q. Ahonen
C/ Doctor Aiguader, 88
Barcelona Biomedical Research Park
Occupational Health Research Unit, Universitat Pompeu Fabra
08003 Barcelona, Spain
Telephone: +34 93-316-0816
Fax: +34 93 316 0410
Email: emily.ahonen@upf.edu; ahonen@uic.edu

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ABSTRACT

Background

Household service work has been largely absent from occupational health studies. We examine the occupational hazards and health effects identified by immigrant women household service workers.

Methods

Exploratory, descriptive study of 46 documented and undocumented immigrant women in household services in Spain, using a phenomenological approach. Data were collected between September 2006 and May 2007 through focus groups and semi-structured individual interviews. Data were separated for analysis by documentation status and sorted using a mixed-generation process. In a second phase of analysis, data on psychosocial hazards were organized using concepts from demand-control-support and effort-reward imbalance models.

Results

Informants reported a number of environmental, ergonomic and psychosocial hazards and corresponding health effects. Psychosocial hazards were especially strongly present in data. Data on reported hazards were similar by documentation status and varied by several emerging categories: whether participants were primarily cleaners or carers and whether they lived in or outside of the homes of their employers. Documentation status was relevant in terms of empowerment and bargaining, but did not appear to influence work tasks or exposure to hazards directly.

Conclusions

Female immigrant household service workers are exposed to a variety of health hazards that could be acted upon by improved legislation,

enforcement, and preventive workplace measures, which are discussed.

Keywords: immigrant, migrant, household service, occupational health, psychosocial hazards, ergonomic hazards, environmental hazards, wellbeing

INTRODUCTION

Since its transition to democracy, Spain has moved from being a country of émigrés to one that is a net receiver of immigrants (European Foundation 2007). This phenomenon became especially marked in the mid-nineties. The foreign population has increased to about 10% of the total population in 2007, which is a 10-fold increase in the last decade (European Commission 2008).

Spanish law divides workers into six groupings, or Social Security Regimens, according to the kind of work they perform. The laws governing things such as the amount of Social Security taxes paid by employer and employee, unemployment subsidies, injury and illness leave and subsidies, disability compensation, pensions, work hours and vacation time differ by Regimen and are administered by the National Social Security Institute under the auspices of the Ministry of Labor and Immigration (formerly Ministry of Labor and Social Affairs). Workers' contracts are registered with the appropriate Regimen. The majority of workers fall under the General Regimen umbrella. The Special Household Service Regimen covers those workers who are: over 16 years of age; who perform exclusively domestic services for one or several heads of household, or people who cohabitate in one household; whose services are provided where the household members live, and; who receive a wage or compensation for their services (MTIN).

Household service work is often performed by paid immigrant women (García *et al* 2009). Given disadvantageous working and employment conditions in this sector (Brush and Vasupuram 2006, Pla Julián *et al*

2004, May Rivas 2002, Ehrenreich 2002, Anderson 2002) and better opportunities in other sectors, Spanish women are increasingly disinclined to do such work. Of foreigners registered with the Social Security system, 7.5% (N=154,125) were affiliated to the Special Household Service Regimen at the beginning of 2008, an increase of 9% in the last year (MTAS 2008). The most recent data show that fully 57% of all those affiliated to that Regimen are foreign (MTAS 2008). Since much household service work is performed in the informal economy, and undocumented immigrants cannot be affiliated to the Social Security system, these numbers probably underestimate the real figures (ICMPD 2003, Economic and Social Council 2004).

Household labor is invisible (Pla Julián *et al* 2004, May Rivas 2002, Ehrenreich 2002, Anderson 2002). It is work no one discusses, and that has generally been taken for granted. When it is paid, it is largely unregulated and regulations are difficult to enforce, because the work takes place in private households. By being unregulated, it has also been invisible in occupational health statistics and in epidemiology, but is not without its risks (Artázcoz *et al* 2004, Artázcoz *et al* 2007, Medina Ramón *et al* 2006, Medina Ramón *et al* 2005, Medina Ramón *et al* 2003). When mentioned in epidemiologic studies, however, household work tends to be mentioned in the context of multiple roles for women who perform another kind of paid work (Artázcoz *et al* 2001, Artázcoz *et al* 2004, Artázcoz *et al* 2007).

In this study, we examine the environmental, ergonomic and psychosocial hazards and health effects identified by immigrant women working in household service in five Spanish cities.

METHODS

Design: This qualitative, exploratory and descriptive study took place in five mid-to large-sized cities in Spain: Alicante, Barcelona, Huelva, Madrid and Valencia. We used a phenomenological approach, because we were interested in informants´ lived experiences of occupational hazards and their health effects (Patton 1990). As such, few guidelines were imposed on discussions, and researchers acknowledged and monitored their own assumptions and biases throughout the study.

Participants: Forty-six women who worked in household service were selected from a larger criterion sample of documented and undocumented immigrant workers, which is described in detail elsewhere (Ahonen 2008) Criterion sampling uses a theoretical framework to guide the selection of participants according to pre-determined criteria (Patton 1990, Miles & Huberman 1994). Selection criteria in the original sample (n=158) were as follows: nationality other than the Spanish, European Union-15, or other high-income countries; at least one years' residence in Spain; both sexes, both documented and undocumented residency status; at least three months' total working experience in Spain; and to belong to a nationality group with greatest presence in Spain. We sought maximum variation in terms of industry and age. Researchers made contact with participants through organizations who worked with immigrants, the snowball method, posters, and direct recruitment by the researchers in local stores, phone centres, markets and neighborhoods. Furthermore, in the original sample, potential participants who lacked moderate fluency in Spanish were excluded.

As data collection advanced, it became clear that this procedure was limiting data gathered from more-recently arrived individuals from some national origin groups. At that point, individuals from Morocco and sub-Saharan Africa who had language difficulties were included through the use of interpreters. In Huelva, the interpreter was a Spanish male member of the research team. In Barcelona, the interpreter was a Moroccan man who worked as a freelance intercultural mediator. In addition, the required time of residence was relaxed in several instances to allow participation of information-rich cases with less experience in Spain. We did not formally keep track of how many individuals refused participation or why. Among the researchers, the sense was that people either felt they did not have time to participate or were sceptical about participation in research because of their desire to fly below the radar.

From that sample, all women who worked in household service at the time of the study (or if unemployed, whose last job had been in household service) were selected for analysis in the present study. They came from Colombia, Morocco, Senegal, Romania and Ecuador. Thirty-two informants participated in six focus groups, and 14 were interviewed individually. Twenty-eight participants were documented and 18 were undocumented (Table I). Documentation status refers to permission to reside in Spain.

Data collection

Data were collected between September 2006 and May 2007 through focus groups and semi-structured individual interviews, with a topic guide. The topic guide had 11 main themes (Table II), all with

corresponding questions and sub-questions to facilitate discussion. Researchers in each city focused on participants of one nationality, except in Huelva, which drew its original sample from multiple sub-Saharan countries. In focus groups in the original sample, informants were separated by sex and documentation status; individual interview participants were sought who fit those four profiles. Sessions took place in community organizations and associations, cultural centers, meeting rooms in urban hotels, and occasionally in the participants´ homes if that was their preference. All sessions were audio-recorded and transcribed.

Given the vulnerable situation of many potential participants, protection and confidentiality were discussed before and throughout the study by researchers. To protect participants, we attempted to set up meeting places where they would feel comfortable; in the case of interviews that took place in community centers, it was because the participants had a relationship to that center and felt secure there. In fact, many of the participants were contacted through these same organizations. At focus group sessions, a facilitator and observer were present. At individual interviews only the interviewer was present. We explained the purpose and scope of the study, where financing came from, and that findings would be published in academic and professional journals and discussed at professional meetings without identifying information. We explained that the interview or focus group could stop at any time if they so wished. Participants also received an information sheet detailing those issues and providing researchers' contact information. They were given the opportunity to ask questions about the study; the most frequent questions

understandably addressed the confidentiality of data and who would have access to them. A few participants had concerns about the audio recording. After we explained that its use was to capture the information they provided in the most faithful way possible and that recordings would be destroyed after the study, all consented to the recording. Written consent to participate was obtained from every participant prior to participation. Informants received a modest honorarium for their participation except in Alicante, where a limited research budget did not allow for honoraria.

Data analysis

After review of the Spanish-language transcripts for accuracy, data were analyzed using narrative content analysis, with support from the Atlas.Ti® (Scientific Software Development 1997) program. Data were separated for analysis by administrative status, meaning documented and undocumented women's experiences were analyzed separately in order to examine possible differences between those who were authorized to reside in Spain and those who were not.

Data were sorted using a mixed-generation process: the initial analytical categories were derived from the interview guide and from ideas gained during early readings of transcripts; others were identified in the data and developed as the present analysis progressed. In a second phase of analysis, coded data from the psychosocial hazards category were organized using the ISTAS21 psychosocial questionnaire (Moncada *et al* 2002) as a guide, an adaptation for use in Spain of the Copenhagen Psychosocial Questionnaire (Kristensen *et al* 2005), which incorporates concepts from demand-control-support

models (Karasek 1979, Johnson & Hall 1988) and effort-reward imbalance models (Siegrist 1996) of workplace stress. Textual segments of data were assigned to the four psychosocial hazards dimensions through constant comparison (Tashakkori & Teddlie 1998). Participant quotes used here were translated from Spanish to English by the first author. She is a native English speaker with academic training and professional experience in Spanish. Readers should be aware that the extracts used here are the translator's best attempt at a rigorous transmission of concept from source to target language rather than a word-for-word rendering of participant statements.

Quality of data

Data were triangulated by methods (individual interviews and focus groups), and multiple analysts (Miles and Huberman 1994). Differences between the two principal analysts were addressed by discussion and by returning to the original data until a consensus was reached regarding categorization and interpretation of the findings. This process was especially helpful in the second phase of analysis where psychosocial hazards were addressed.

RESULTS

Participant quotes are labelled by documentation status and by participation in a focus group (FG) or an individual interview (II), and can be found in Tables III, IV and V. In general, hazards and health effects reported by documented and undocumented participants were similar to the extent to which their tasks were similar. Participants believed that being documented or undocumented did not directly affect workplace tasks or hazards, but was used as a source of power within the workplace. Their dependence on their employers, and their ability to bargain for things like better working conditions, hours, and pay, were things they related to being documented.

Four emergent categories are relevant to the results. First, (1) live-in workers, or those who live in the same house where they work, and whose room and board is typically deducted from their monthly salary; and (2) live-out workers, those who live elsewhere and go to the homes where they work (and are paid either an hourly wage or a monthly salary). Second (3) cleaning work; and (4) caring work (usually for children, the elderly or the chronically ill).

Informants perceived risks and corresponding health impacts that fell into three categories: exposure to environmental, ergonomic, and psychosocial hazards. They clearly articulated their concerns about the former two, but by far the most strongly expressed concern was with psychosocial hazards. Accordingly, those data occupy the bulk of the results presented here.

Environmental hazards and respiratory and skin reactions

Those whose work responsibilities included cleaning consistently mentioned two products that they felt were hazardous: bleach and ammonia. A few participants also mentioned degreasing agents as dangerous. They believed that such "strong" and "toxic" products made their cleaning work easier, but were hazardous. Some participants expressed a wish to use less toxic products, but said that their employers chose the products with which they worked. A small number of women felt that these products came with the territory of cleaning, and that though they were bothersome, they were the same products they used in their own homes.

Participants explained that the acute physical reactions that they had to the products, mostly dermatologic and respiratory in nature, were an obvious signal of the health effects they caused. They described experiences with burning in their eyes and throat, watery, red eyes, difficulty breathing, "suffocation", and skin burns and irritations.

Ergonomic hazards and musculoskeletal problems

Among all participants, there was consensus that the physical nature of household work was exhausting. They described generalized musculoskeletal pain that came from the demands of their work and from the need to travel between houses if they worked in more than one. Participants discussed specific ergonomic hazards depending on the type of work they did, cleaning or caring. Those whose main responsibilities included cleaning discussed musculoskeletal strain associated with the repetitive and fast upper body motions used in scrubbing, ironing, and mopping, as well as strain on their backs from

moving furniture and making beds, and adopting awkward postures to reach high above their heads to clean windows or doors.

Women whose work involved care of persons with limited mobility were very clear about the physical strain and potential for injury that they faced in tasks of helping their charges to bathe, dress, and move about the household. This often involved supporting the weight of the other person's body or moving the person from one place to another. They stressed the idea that those were activities for which they had no training and that they saw as high potential risks for back injury. In fact, several women had injured their backs while caring for limited-mobility individuals.

Their work took all their physical energy, and left them accumulating fatigue and losing vitality day after day. Some of the women, cleaners and carers, had been prescribed analgesic medications to deal with acute and chronic pain. They believed, however, that these were of only limited utility, given that their tasks continued to aggravate their musculoskeletal complaints.

Psychosocial hazards and health

Demands

The informants almost unanimously mentioned the quantity of work they were expected to complete and the time they had to complete it as a stressor. They were given more work than they were able to manage at a decent pace, and had to work very quickly to accomplish it; they were "always running around". This led to work that was not well-done, or to being given an even greater volume of work in the

future if they were able to acceptably complete it. If unable to finish work on time or well, they feared negative employment consequences.

Women whose responsibilities were principally caring for a person described the addition of cleaning or cooking chores to their principal care function, which made work volume unmanageable. Carers also discussed the emotional demands that their work placed on them. Demands came both from the personal relationships developed during many hours spent together, and the difficulty of watching the elderly or ill deteriorate and sometimes die.

Control / development of abilities

Many informants had little influence over certain aspects of their work. They lacked control over the amount of work given to them, and the way to perform it (for example, control over the choice of cleaning products used). Furthermore, they described difficulty in organizing their work because they were asked to attend to multiple tasks at once.

Informants also reported very little control over their working time. They could not take breaks because of time constraints in completing work, or fear of being looked upon negatively by their employers. At times, this lack of control was used by employers; one participant described being unable to leave 10 minutes early if her work was finished, but needing to be available to stay on extra time if she was needed. Informants even reported skipping meals in order to finish their tasks, arrive on time to the next home, or so as to not be perceived as lazy. Some informants also reported that they were

unable to take personal or sick time off. A few informants felt that working in private homes afforded more flexibility in that regard than working in other environments.

Finally, informants felt stagnated in their work. Having monotonous jobs weighed very heavily on them. They performed repetitive tasks that did not permit personal or professional development, and that made them feel trapped.

Social support and quality of leadership

Monotony was closely related to workplace isolation. Informants worked without co-workers, with no one to talk to or interact with. This was particularly true for live-in workers, many of whom described not being allowed to leave the house except a few hours a week, being "prisoners" within their workplaces. This brought anguish that was sometimes desperate in its intensity - one participant described an impulse to jump from the balcony of the house in which she worked, so urgent was her need to form "part of the world" outside her workplace.

Informants also described role definition complications. While they were initially hired to clean, for example, little by little more responsibilities and expectations, were informally added to their duties. For live-ins, this meant that eventually they were working from the time they awoke in the morning until the time they went to bed. Furthermore, some informants described conflicts about who was able to assign them work. This happened mostly when they were hired to care for an elderly parent by daughters and sons. Initially, the hiring

children set the conditions, but often the cared-for person imposed other expectations or rules which were extremely difficult to manage.

Rewards

The informality of their work meant a great deal of insecurity for the informants; their position could be terminated at any moment. Furthermore, informality of a different sort permeated their relationships with their employers. They worked in their employers´ homes, often caring for their relatives. This led to a strange, informal relationship of pseudo-"friendship" between employer and employee that allowed for manipulation. Some of the undocumented informants felt that they owed their employers for the "favor" of having given them work when they lacked work permits. Informality and favors meant limited ability to argue against the addition of more tasks, a greater volume of work, longer hours, or to ask to be paid for extra time.

Almost all informants felt that they were underpaid. Furthermore, many described working while sick because they felt unable to miss work. This feeling was sometimes intuited and related to insecurity, but often was directly stated by their employers, who also frequently asked informants to find a replacement for the days they would be absent. Besides a lack of appropriate financial compensation, informants lacked other types of compensation. They believed their work, efforts, and sacrifices went unrecognized by the families who employed them.

Beyond not being appreciated, informants often felt badly treated. They were made to eat separately from the household members, or to wait until after they had eaten. Sometimes their employers´ children were rude to them without consequences. A few informants had been obliged to wear uniforms. Such obvious drawing of a line between "us" and "them" meant that they were seen as "less than a person". Being treated well or badly in the workplace, for these informants, was a matter of "luck" that depended on the personalities of their employers.

Fatigue, discussed in the ergonomic hazards section, was also related to psychosocial hazards. Participants worked long hours under high emotional demands, and felt unable to take breaks or to take time off work for illness. Such presentee-ism further exacerbated their fatigue. They described being unable to appropriately care for their general health as a result.

Feelings of anxiety were frequent. Heavy workloads and an accelerated pace created "nerves" and a state of constant "stress" as they rushed to accomplish all of their tasks. Participants further connected hurrying their work with increased fatigue and potential for musculoskeletal injury. They also experienced anxiety because of insecurity, especially related to the potential for economic strife that would come with job loss. Most had extremely limited incomes, and had family economic responsibilities in Spain or in their country of origin. They carried a burden of money-related pressure, and described insomnia and other sleep affectations related to its weight.

Sleep affectations were also directly related to a lack of control over working time. Live-ins were often unable to rest because of nocturnal care-giving demands. There were no limits to their work hours, and sleep deprivation added up, leading both to exhaustion and to learned sleep alterations. Several participants mentioned using analgesics prescribed for other purposes or tranquilizers to manage anxiety and help them sleep.

Descriptions of other mood affectations were also very present in the data. Informants described feelings of depression and frustration with the lack of future they saw in their work. Sadness was sometimes overwhelming in the case of being unable to meet the economic needs of their families, or as they were absent from their loved-ones´ lives while they worked within other peoples´ family circles. Live-ins described becoming depressed over time, saying that one could only last so long working as a live-in before becoming "psychologically sick".

Finally, some informants believed that work had a positive impact on their mental health, so that work became cause and palliative. There was a certain underlying belief that steady household service work was better than no work. At times, work was even described as a refuge, such that they could "work to not worry".

DISCUSSION

This study has described significant environmental, ergonomic and psychosocial risks experienced by household service workers. The composition of these risks was similar by documentation status, though participants believed that they had more bargaining power if they were documented. Experiences varied by whether informants´ principal tasks were cleaning or caring, and by live-in or live-out status. However, we were unable to fully analyze these emerging categories because data on them was not available for all participants.

Ammonia and bleach are known respiratory and skin irritants (U.S. ATSDR 2004, 2002), and were mentioned as such by our informants. The results of this study support previous studies that have situated household cleaners at risk for respiratory symptoms. Medina-Ramón and her colleagues (2003, 2005, 2006) have examined respiratory concerns in female household cleaners in several studies. In a community-based survey (2003), they found a higher prevalence of asthma (OR 1.46, 95% CI 1.10-1.92) in current and former (OR 2.09, 95% CI 1.70-2.57) household cleaners, and attributed 25% of the asthma cases encountered to household cleaning work. In a nested case-control study, asthma symptoms were associated with exposure to bleach (2005), and in a panel study (2006) which investigated short-term effects of cleaning exposures on respiratory symptoms and peak expiratory flow in household cleaners with respiratory disorders, they reported an association between lower respiratory tract symptoms and diluted bleach, degreasing agents, and air fresheners. A recent qualitative study of domestic and industrial cleaners (Arif, Hughes & Delclos 2008) reported a lack of skills in the household cleaners in

terms of job training, chemical exposure and use, and competence as compared to the industrial cleaners. Domestic cleaners also reported more exposures to respiratory irritants and related symptoms than the industrial cleaners. The combination of results obtained by other researches and the data from this study add to the impetus to better understand and intervene appropriately on the risks involved in using extremely common household cleaning chemicals.

Repetitive movements to which female workers are frequently exposed have also been noted elsewhere (Artázcoz *et al*, 2007, Messing 2004). Our informants described chronic pain related to repetitive movements which were central to their work tasks. Combined with the inability to take time off, such chronic strain is not likely to improve. Moreover, in jobs with similar demands for people-moving, such as nursing, workers are given training and support to avoid injury, and such risks are formally identified as part of the job. These women, in contrast, had no training or support in proper ergonomic practice.

Psychosocial hazards are associated more frequently with jobs performed by women (Artázcoz *et al* 2004, 2007). Household service work, overwhelmingly female, is also highly informal. Informality was an important factor in informants´ psychosocial environments. The point made by informants that, despite often poor conditions, paid household work was preferable to no work, has been previously mentioned with respect to informal work (Portes et al. 1989). It is understandable that, given the alternative of no work, paid work was viewed as positive by informants. However, the absence of viable

alternatives should be read as an endorsement only with healthy scepticism, given the disadvantages also involved for these workers.

Poor working conditions for household service workers are aggravated by the lack of regulation of the sector. It is a sector denominated "special", meaning not subject to the same laws that regulate employment relationships in other sectors (Royal Decree 1424/1985). For example, verbal contracts are valid. Though there are legal specifications for the sector regarding days off, vacation, and hours of work, and hiring and firing practices, the conditions established for household services workers tend to be notably poorer than those established for other worker groups, especially in terms of working hours per day and time off (Spanish General Workers Union, Services Federation, 2001). Additionally, in the case of verbal contracts it is extremely difficult for the workers to register complaints, and tasks are not specified in contracts. Conditions for paid general sickness leave are much poorer than in other sectors. Up to 45% of their salary can be retained for living expenses and food in the case of live-ins. In addition, the sector does not contemplate occupational injuries and diseases. Such special treatment means that these workers are especially vulnerable. In recent years, non-profit organizations, unions and some Autonomous Communities in Spain have called for reform. The Spanish government intended to consider such issues last year (2008) (Abellán 2007), but reform was put off. It has been suggested that the Special Household Services Regimen should be abolished, and those workers incorporated into the Autonomous or General Regimens, which establish better conditions ("Piden" 2008). Such a move would certainly improve the condition of documented workers,

though it is not clear how such a move would affect undocumented workers. The idea of promoting contracting of household service workers through businesses, rather than on a family-worker level, has also been suggested by the Ministry of Labor and Immigration (Abellán 2008).

While regulatory frameworks do not guarantee compliance nor resolve all working and employment concerns, they provide solid ground from which to begin. In the same way that being documented gave women in this study a greater sense of empowerment, stronger laws would help to prevent abuses, and so we wholeheartedly agree that the first step to driving any improvement in the working and employment conditions of these workers would be an improved regulatory framework.

Immigrant women employed in household service should also be a group given attention in future epidemiologic research. While it seems fairly well-documented (Artázcoz *et al* 2001, Artázcoz *et al* 2007) that employed women's health is negatively affected when the combination of their paid and non-paid labor creates overload, this study suggests that the person hired to decrease the load may incur not only the benefits of paid employment but also the negative health effects of poor working conditions. The legal peculiarities of the sector and the invisibility of the work combined with the risks to which they are exposed makes it an area of important occupational health concern. The need to provide healthy workplaces within private homes carries with it many important complications, but the conditions described here occur within a social structure that, through its lack of regulation

and enforcement, currently denies that household service work is work. In that way, the women who perform this type of work are denied the status of workers, with the social and occupational safety nets others enjoy.

Researchers have for some time critiqued the outright absence of gender in the study of work and health or its male- and ethnocentric perspective (Eun-Ok 2000), misperceptions about the nature of women and women's work and hazard exposures (Messing 1997), and have provided recommendations for treating gender appropriately in occupational health research (Messing *et al* 2003). Gender is not the only relevant issue; future efforts to describe and quantify occupational stress in this group should include the sum of multiple characteristics of the workers, such as being female, being ethnic or visible minorities, being poor, and having fewer legal rights as immigrants (Llàcer *et al* 2007). That women of these characteristics frequently perform invisible work does not occur by chance; rather it is a "social phenomenon that needs to be examined" (Neysmith and Aronson 1997).

For these reasons, a feminist research perspective should be considered. A full discussion of feminist epistemologies and methodologies is beyond the scope of this article (see, for example, Campbell and Wasco 2000 for an overview), but such a perspective would be useful because of the central aspects of feminist research, which: values the experiences of all women, uses qualitative and quantitative methods to gain fuller understanding of a phenomena, uses research to connect women to other women, minimizes the

hierarchical relationship between researcher and 'researched', and recognizes emotion both in women's lives and in science, with the goal of respecting, understanding and empowering women through research (Campbell and Wasco 2000, Eun-Ok 2000). Such consideration within an occupational health framework may require specific tools developed with appropriate measures for the risks involved in household service tasks and for immigrant populations (Messing 2004). As this study has shown, depending on whether principal responsibilities were cleaning or personal care, the tasks involved could be quite different, and tools to evaluate hazard exposures should take into account this variety of tasks as well.

Finally, Messing and Grosbois (2001) have suggested that research, policy, practice and ultimately women's occupational health will be advanced through successful stakeholder collaborations that cut across social class and gender lines. Their call for collaborations among feminists, working class organizations, researchers, and women workers could not be more appropriate than in the case of women immigrant household service workers. The inclusion of immigrant rights groups might also be useful.

CONCLUSIONS

It is time to look beyond measuring risk exposures in the traditionally hazardous, often male, occupations. As these data have shown, female immigrant household service workers are also exposed to a variety of health hazards that could be acted upon by improved legislation, enforcement, and preventive workplace measures. This, however, requires our prior recognition of people employing household workers as employers, and household service as work, in order to recognize those who perform it as workers worthy of protection.

Table I Demographic and educational attainment information of female immigrant informants employed in household services, by documentation status, in qualitative ITSAL study, Spain, 2006-2008.

Origin	Age Range [years]	Range of time in Spain [years]	Educational attainment	Docum. Status*		Total participants from origin
				Doc.	Undoc.	
Colombia	28-55	4.0-7.5	Unknown	0	0	**7**
			Primary school or less	1	0	
			Secondary school	5	0	
			Some university studies, professional training or university	1	0	
Morocco	26-53	1.0-22.0	Unknown	0	0	**8**
			Primary school or less	3	1	
			Secondary school	1	1	
			Some university studies, professional training or university	2	0	
Senegal	33	3.0	Unknown	0	0	**1**
			Primary school or less	1	0	
			Secondary school	0	0	
			Some university studies, professional training or university	0	0	

Table I CONTINUED
Demographic and educational attainment information of female immigrant informants employed in household services, by documentation status, in qualitative ITSAL study, Spain, 2006-2008.

Origin	Age Range [years]	Range of time in Spain [years]	Educational attainment	Docum. Status*		Total participants from origin
				Doc.	Undoc.	
Romania	20-50	0.6-5.0	Unknown	2	2	**23**
			Primary school or less	0	0	
			Secondary school	3	9	
			Some university studies, professional training or university	5	2	
Ecuador	20-43	3.0-7.0	Unknown	0	0	**7**
			Primary school or less	2	2	
			Secondary school	1	1	
			Some university studies, professional training or university	1	0	
Total range	**20-55**	**0.6-22.0**	**Total participants**	**28**	**18**	**46**

* Doc. = documented, authorized to reside in Spain Undoc. = undocumented, not authorized to reside in Spain

Table II Interview topic guide for focus groups and semi-structured individual interviews with immigrant workers. Qualitative ITSAL Project, Spain, 2006-2008.

Migratory process
Occupational background in country of origin
Current work situation
Income
Occupational history in Spain
Administrative/legal status
Treatment and discrimination
Labor union participation and/or associative patterns
Health
Occupational hazards
Future prospects

Table III Quotes related to environmental and ergonomic hazards and health effects, female immigrant informants employed in household services, by documentation status. ITSAL study, Spain, 2006-2008.

	Hazard	Health effect
Environmental	*Every day there are more products [available] and of course, they´re good, but they´re also toxic.* (Documented Romanian, FG)	*I had to do 3 houses in one day, I left one, all of them wanted me to clean the bathrooms with ammonia, and I left there poisoned, now every time I have contact with ammonia, my whole face burns, my hands were cracked, they were bleeding.* (Documented Romanian, FG)
	P: Do you think that [the use of chemical cleaning products] could produce any health effect? *A: No, because we use them in our houses, too. In my house I use them all over the place. So, no, I don´t think so.* (Documented Moroccan, II)	*I used a lot [of ammonia] at once and…I was starting to get desperate.. I knew that it was because of that [ammonia], because in that moment I couldn´t even breathe. I realized it myself.* (Documented Moroccan, II)
	…they like it when you clean with ammonia, which is pretty strong, and bleach, which are really strong products… (Undocumented Colombian, II)	
	…bleach does harm and the degreaser hurts me, because I´ve got sensitive skin, you know? (Undocumented Moroccan, II)	*With the problem I have with my eyes they tell me to be careful `be careful with the chemicals (laughs)´, and that´s it…my eyes get red as if I were crying.* (Undocumented Moroccan, II)

Table III CONTINUED
Quotes related to environmental and ergonomic hazards and health effects, female immigrant informants employed in household services, by documentation status. ITSAL study, Spain, 2006-2008.

	Hazard	Health Effect
	A person who weights 90 kilos [and you have to move him], you`ve gotta realize, and really floppy…I didn´t even have the strength to walk. (Documented Romanian, FG)	*I got a muscle spasm in my back…because I lifted up an 86 year-old woman who was too heavy, lift her up, set her back down, all that.* (Documented Moroccan, II)
Ergonomic	*1. Your back…* *2. Yes, you have to move all the things in the house, to clean, to mop, all that, ouch.* (Undocumented Romanians, FG)	*Lots of bone pain, because cleaning work is a little tough…bone pain, lots of tiredness, varicose veins…I think more than anything it´s bone pain and lumbar pain.* (Documented Colombian, II) *It weighed a lot and I had to pick it up, and my back hurt, and I had to iron two or three loads of laundry…*(Undocumented Romanian, FG)

Table IV Quotes on perceived psychosocial hazards and health effects, female immigrant informants employed in household services, ITSAL study, Spain, 2006-2008.

Hazards
You´re shut up 20 hours a day, you don´t have contact with other people, you can´t shower, only once a week, you can´t eat what you want… (Undocumented Romanian, FG)
So then I make the food and I leave, I don´t have the right to an hour´s break, right? No, I don't, so I´m leaving and she [boss] says to me, `But [informant´s name], you have to be here to serve the table´. I say, nobody told me I had to be a waitress, too, I´m paid for other services… (Documented Romanian, FG)
In homes, how they take advantage of a person, really…at first the woman was thrilled with me because I cleaned her house really well and everything, and she got up with the kids to take them to day care and everything and I said I´d help her dress the kids so she could get out fast…and sometimes when I couldn´t help her with the kids or something she got angry with me…they always want one to do more than one can. (Documented Colombian, FG)
Yes, he was a person who couldn´t do anything for himself…you have to get up many times during the night, then begin again at 8[a.m.], the same every day for 600 euros [aprox. $900]…when you get yourself into a house as a live-in, you´re making food and cleaning and everything, and on top of that you have to care for a sick person… (Documented Romanian, FG)
What, a live-in can´t leave the house? (voices) You want to work as a live-in, not as a prisoner in a penitentiary, right?...they treat you as if you were a prisoner. (Documented Romanian, FG)
More than anything it´s the way one is treated, because they don´t treat one well, they don´t treat one with respect that is deserved…whoever one is, whether one has or doesn´t have money, one has to be respected, right? At least that´s my way of thinking. (Undocumented Ecuadorean, FG)
Supposedly I worked four hours a day from Monday through Friday, but the majority of the time I had to stay with the child on Saturdays or Sundays, or I got out late because the woman [employer] had something to do. (Undocumented Colombian, II)

Table V Quotes about perceived health effects related to psychosocial hazards, female immigrant informants employed in household services. Qualitative ITSAL study, Spain, 2006- 2008.

Health effects

Physically, you work, you get tired, and when you can't you don't get out of bed, but here where you really get worn down is in your head.
(Documented Romanian, FG)

The only problem an immigrant finds when she comes isn't an illness, but it's depression….
HAVE OTHERS HAD DEPRESSION?
I have.
Yes, often.
ALL OF YOU?
I did for two years.
It's inevitable.
A sadness…
(talking)
Lots of anxiety, all that.
I had to take pills.
In my country the term depression isn't firmly established. She says sadness, but I ask you, does that sadness last a week?
No, depression isn't an illness, in my country someone in psychiatry [psychiatric treatment], well she's crazy, that's all…
(talking)
Cleaning houses and getting depressed
(laughter)
Child, you clean well, clean, clean, so you'll get depression and migraines and anything else you want…no, seriously, sadness that is prolonged is depression, really.
(Documented Romanians, FG)

When I saw my children and my husband here sometimes I wanted to go outside a moment, on the balcony, to be outside a moment…get some air, and I got this anguish, I wanted to jump, to run away, yes. I said, `I can't stand this job anymore, I can't stand this job anymore, my job is killing me, my job is killing me`…a sick person transmits their sickness to you, even if it's psychologically, we end up sick…
(Documented Ecuadorean, FG)

Table V CONTINUED

Quotes about perceived health effects related to psychosocial hazards, female immigrant informants employed in household services. Qualitative ITSAL study, Spain, 2006- 2008.

Health Effects
When you don't have money, yes, it's hard to sleep, you can't sleep because you don't have money, you don't have food, you don't have money for the rent. (Undocumented Romanian, FG)
I want to work to not think. (Undocumented Romanian, II)
If you take a few more days [to recover from illness], as you should, until you're well, so you can work better…you're out on the street, and that's it. So one has to make a superhuman effort and say…`well, I guess I feel a little better…I'm going to continue`, and that's all there is to it. (undocumented Ecuadorean, FG)
I need to work. Beyond needing the money, it's that I can't be idle. I can't, I can't. I get sick (laughs). It's true! SURE *The more idle I am, the sicker I am.* (Documented Moroccan, II)

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4. DISCUSSION

4.1 Main results
4.2 Weaknesses, strengths and contributions
4.3 Future research and policy considerations

4. DISCUSSION

*"**It is not just important what we speak about, but how and why we speak…**Often this speech about the "Other" annihilates, erases: "No need to hear your voice when I can talk about you better than you can speak about yourself. No need to hear your voice. Only tell me about your pain. I want to know your story. And then I will tell it back to you in a new way. Tell it back to you in such a way that it has become mine, my own. Re-writing you, I write myself anew. I am still author, authority. I am still the colonizer, the speaking subject, and you are now at the center of my talk."*

bell hooks (emphasis mine)

"Writing simultaneously captures voice and erases it. The reader imagines behind the written words a voice, or multiple voices, but at the same time the orality of that voice has been stilled, embedded in the silent page through the transmigration of writing. There is a built-in tension of vocality in writing: sometimes the reader's awareness of voice comes to the foreground, at other times it recedes."

Thomas Christensen

4.1 Main results

The results presented here have described generally poor and sometimes exploitive working conditions for immigrant workers in Spain. Specific elements are discussed in the articles presented in Results. Here, discussion is integrated and extended beyond the scope of an individual publication.

Informants reported widespread exposure to a variety of occupational hazards, long work hours, and few days off, as well as discriminatory assignation of the heaviest and most dangerous tasks to the immigrant workers in their workplaces. Informants lacked worker safety training, appropriate personal protective equipment, and experience and training in their assigned tasks. Furthermore, they were assigned new tasks abruptly and changed jobs frequently. Most had very little control over elements of their work environment. Finally, informants reported abuses in terms of contracting, employer payments into the Social Security system, sick and vacation days, and pay below that stipulated for the sector. These findings broadly support those previously described in the literature (i.e. Ahonen et al 2007, de Castro et al 2006, Hsin-Chun Tsai 2007, May et al 2007).

Analyses showed that documentation status was perceived as an important influence over working conditions. Undocumented workers were clearly more vulnerable to poor conditions than documented workers, and directly related gaining documented status with an improvement in working conditions. In terms of perception of risk, they were in general very aware that they would be completely unprotected in the case of illness or injury, occupational or otherwise, that left them unable to work. But documented individuals were also vulnerable due to their status as immigrants. This vulnerability came from economic necessity and from dependence on maintaining a job and payments into the Social Security system in order to renew their documentation status. According to informants, complaining about working conditions did little to actually improve the condition, and often put the workers at a disadvantage. They were made to feel they

could easily be replaced, and feared job and income loss, or other negative consequences such as deportation, and under such circumstances, many preferred to avoid "problems". De Castro et al (2006), in their analysis of work organization in immigrant workers, pointed out that, with frequency, work is organized in such a way as to allow violation of worker rights. Furthermore, they point out that the experience of workers in their sample "reflects larger societal issues related to exploitation, unfairness, racism and oppression" (2006).

In specific analyses of women household workers, the perception of the importance of documentation status was somewhat more nuanced. The informants believed that documentation status had limited influence over the actual conditions involved in their tasks, but that being documented gave them more bargaining power over things like scheduling and hours, and more personal freedom to leave the job and find another if conditions were especially poor. These beliefs might be explained by the nature of the work they were doing. First of all, household cleaning and personal care is inherently heavy, physically and emotionally taxing work. While modifications can be made in the way the work is done, through ergonomic and psychosocial interventions and the substitution of less toxic cleaning products, the basic character of the work is unlikely to change. However, having more bargaining power is possible, and one potentially gains that power by becoming documented. It may also be possible that the formality of being documented seems less central to informants within the context of an extremely unregulated and highly informal work sector. However, the women aspired to a clear progression: begin as live-in workers shortly after arrival, advance to live-out worker status,

and eventually move out of the household service sector to another, "better" type of work. Being documented is a necessity for "better" work, and so perhaps the importance of documentation status was subsumed within hopes for occupational progression in general.

The question of whether gender influences perception of risk is one for which this study is unable to provide a clear answer. While initial analyses showed somewhat less urgency in women's perception of risk as compared to men's, this result was difficult to disentangle from the type of work in which men and women were employed. There was little overlap in what men and women did for a living in our sample. In agriculture and in accommodation and food services, where both men and women were employed, perception of risk appeared similar. In construction, where potential health risks are obvious and can be dramatic, the men described them at times with a sense of urgency that was not so prevalent in discussions of risks among women, the majority of whom worked in household service. In more focused analyses of the latter group of workers, it became clear that they did perceive risks, the results of most of which accumulated over time. Furthermore, the type of work done in paid household service, if not the pace and the amount of time, is the similar to the reproductive work one must do in one's own life. Seeing risk in habitual actions is something that is always challenging for humans. As such, it seems just as likely that the ways risks are perceived is as attributable to type of work as to gender.

Informants' experiences of working conditions were somewhat complex. They seldom described any condition that was not

perceived as negative, and the majority perceived some health risks in their work. The health effects they described ranged from the experience or fear of acute injuries, to chronic strain injuries, respiratory and dermatologic responses, to the accumulation of fatigue, sleep affectations, somatic symptoms, and mental health concerns such as anxiety and depressive mood. Furthermore, they projected into the future, predicting that their health, physical and mental, would not withstand their taxing work indefinitely. At times they were more certain that the general, abstract accumulation of dirty, demanding and dangerous work would eventually affect their health than they were about current hazards; some expressed a kind of ambivalence about hazards at the same time they described them. Such hazards were part of work, and any type of work had risks – theirs just had more, and they had little capacity to influence them because of their immigrant status. Lin and colleagues described a similar attitude as resignation (2007), which may also be an apt descriptor here.

Such a perspective is perhaps understandable. Informants believed that their employers had little interest in their health and wellbeing, caring far more about production, a belief also cited by immigrant workers in other studies (Lin 2007, Walter et al 2002). While such a statement may also be applicable to non-immigrant populations, it is important in light of the notable absence of any preventive activity, job training, and formal support through unions or workers' rights groups for these informants. The sum of these things left them feeling powerless to obtain modifications in their working conditions. They recognized poor and exploitive conditions, but felt that, as

immigrants, they had little choice but to work under them. Within the context of potential interventions for a workers' rights group, Cho et al (2007) have suggested that it may be useful to explore workplace hazards as a form of injustice that threatens immigrant workers' incomes in order to encourage them to file complaints about health and safety violations. Our results suggest that workers already hold such perceptions, but that job and economic insecurity understandably impede their willingness to pursue improvements.

A chronic accumulation perspective may be very important when considering the occupational health of immigrant workers in future study, especially if immigrant and ethnic segregation of labor markets and difficulty in the recognition of their previous education and training in Spain means that they will have difficulty moving into better jobs over time. Whereas earlier studies have described segmentation of labor by various worker characteristics, where immigrant status was one possibility (Sassen 1996, Portes, Castells & Benton 1989, European Foundation 2007), one recent study has proposed that such segmentation goes as far as being a 'migrant division of labor' in London (May et al 2007), wherein immigrant workers form a 'reserve army of labor' within a polarized market. While the authors were not working within an occupational health framework, such descriptions mesh with our informants' assertions that their work was immigrant work, the kind Spaniards do not do. At this juncture in Spain's immigration history, information about the occupational trajectories and health of immigrant workers is too sparse to know whether they will be able to move into less demanding and better paid jobs over time.

Finally, these results leave little doubt about the need for better outreach and support for immigrant workers in Spain. Such support is necessary in the areas of employment and working conditions, pay, formal worker support, and prevention of occupational illness and injury. Better data collection and surveillance of this worker population is a centrally necessary element of stronger immigrant worker support. Complete discussion of all these issues is beyond the scope of this section, but some of them will be discussed in forthcoming publications by other members of the research group. For these workers, immigrant and documentation status, as well as economic and job insecurity, mean that formalized support systems are unlikely to be adequate. We should recognize this fact and explore more flexible ways to support and protect vulnerable workers.

4.2 Weaknesses, strengths and contributions

The quotes that open this section capture well the essences of both the strengths and weaknesses of this study. One important limitation in particular is made explicit. While all data were collected as direct contact interviews and focus groups and transcribed verbatim for analyses, in this study workers´ experiences were related in Spanish, sometimes through an interpreter, filtered through the lens of the researcher, and then translated to English. In cases where either the participant's or the researcher's first language was not Spanish, this may be the source for some loss of nuance. Perhaps more important, by including a language requirement as one of our initial selection criteria, we limited the participation of people who were more recently

arrived, often undocumented. Given the difficulty already involved in making contact with undocumented participants, this is an important limitation, and our final sample contained fewer women and fewer undocumented than documented individuals. While this was expected from the beginning of the study, and we were able to reach sample sufficiency and saturation of the data, it should nonetheless be kept in mind when interpreting the results presented here. Additionally, the fact that researchers represented universities, labor unions or other units of societal status highlight a difference in power, both abstract and literal, between "researcher" and "subject".

However, efforts were made to clarify meaning in respondent data, we added interpreters in cases of most limited Spanish language ability, and researchers aimed at all times for respectful, non-judgmental investigation of respondent experiences, beliefs and opinions. Furthermore, interviews and focus groups took place in locations where respondents would feel most comfortable. In the articles presented here, the authors have at all times attempted to present extensive original data in order to highlight the participant as a primary data source. We note the above limitations, which we hope has made us sensitive to them throughout the research process. These are factors that should be seriously considered in future study.

Another factor, though perhaps not a weakness, should be considered in the future study of occupational health in immigrant populations. After much discussion in the preliminary field work phase about the overlaps between gender and work sector, we chose not to include sector or occupation as a segmentation factor and to include it instead

as a variable of maximum variation. This was due to the belief that gender was what influenced sector. In women, our final sample has little variation in sector, with the majority employed in household service. In future study, if researchers are interested in women's experiences in other sectors, they will have to make it an explicit priority to find and gather data from them.

This study also has several important strengths. First, we initially made contact with many of the participants through community organizations and labor unions that aimed to support and advocate for immigrant worker groups. This had clear benefits for data collection, as it allowed us access to a difficult-to-reach population, especially in the case of undocumented workers, who are doubly difficult to contact and who are often understandably reticent to reveal their situations and experiences. In many cases, researchers were able to employ the trust formed between the organization and the worker as a form of proxy trust, allowing us to document immigrant workers´ experiences. Initially, some organizations were hesitant about participating, at best seeing little benefit for their users and at worst fearing abuse of the information gained through the study. The positive collaborative experience between the organizations and the involved universities may have important future benefits, not only in terms of research but also in terms of advocacy and intervention. Future collaborations might include working to improve methods of data gathering and tracking, analysis of information that might otherwise go unused (for examples see de Castro et al 2006, Cho et al 2007), dissemination of information, evaluation of needs for more

targeted advocacy and intervention, and collaborations in that advocacy and intervention.

Perhaps the greatest strength of this study is its methodology. We garnered data on working conditions and occupational health directly from the experiences of workers themselves. Though such an approach is acknowledged as useful (de Castro el al 2006, Lin et al 2007, McDonald et al 2004, Lipscomb et al 2008) it is one infrequently used in occupational health and safety research. In this context, where current sources of information on the working conditions and occupational health are extremely limited both in variety and in scope, use of qualitative methods is an exceptionally valuable approach. Furthermore, we found that this approach, as de Castro and his colleagues point out in their own study, allowed effective access to information where other tools, such as currently available surveys, might fall short because of the uncertain validity of the tools´ frameworks in varied contexts and groups, and facilitated collaboration of researchers from multiple academic backgrounds. This collaboration enriched the analyses of data by employing the different conceptual frameworks of each investigator. Finally, qualitative methodology is inductive in nature and does not limit analysis to frameworks developed *a priori*, allowing additional research themes to develop as the study progresses. One of the most important benefits of that induction in this study was the information gained about the importance of several distal influences on working conditions for immigrant workers in Spain. This is a valuable insight from this study, and its consideration in the survey tool we developed will allow examination of these data in the future. Additionally, the emerging categories in the household service workers study will allow

for more guided and specific future studies in a group that desperately needs more attention. The multi-methodological nature of the broader ITSAL study incorporates a more holistic view of the occupational health of immigrant workers that recognizes the interaction of work and non-work factors in determining worker health (Schulte 2006).

4.3 Future research and policy considerations

This study was exploratory and descriptive in nature, an appropriate design given the extremely limited extant information on the immigrant worker populations in Spain. However, one study clearly cannot address all relevant issues, and further study will be needed in order to better understand the occupational health needs of immigrant workers and their families, of specific immigrant subgroups, and to design appropriate interventions and evaluations. The following are particularly relevant for future studies in this area:

- Longitudinal studies to follow the occupational paths, evolution of economic situations, and especially occupational health outcomes of immigrant workers over time.
- Systematic study of the health needs of workers involved in household service work. While a slowly growing body of information is available on home care workers, household cleaning workers and nannies have been studied within the context of occupational health with very little frequency, despite the extension of polarized service economies.
- Investigation into more flexible possibilities for surveillance of immigrant worker health. In particular, less formal strategies

may be useful in hard to reach immigrant workers who are often administratively invisible due to documentation status, work in the informal economy, or both. Surveillance data collection in primary health care settings and emergency rooms might be logical places to start. In both of those settings, providers will probably need further sensitization to occupational health and probing patients about their working situations.

- With a better understanding of the needs of immigrant workers in specific occupations, exploration of the possibilities for worker-centered intervention studies to build on collaborations with civic, religious and labor organizations can be carried out and evaluated.
- Two possible areas for intervention brought to light in data presented here are ergonomic training for home caregivers, and chemical substitution for household cleaners.

In terms of policy, short-term work permits that depend on obtaining and maintaining a specific job increase worker vulnerability and the potential for abuse of immigrant status by employers. The short validity period for initial work permits (1 year), combined with the frequent job rotation encountered in this study, expose workers to the manipulation of employers who are aware of their need to maintain a job and contributions to the Social Security system in order to renew their permits. Consideration of work permits independent of any specific job would be useful to combat this vulnerability, as would longer validity periods for the permits.

Family members who migrate as part of family reunification schemes are not automatically granted work permits. Given the low salaries encountered in this study, such reunification potentially fuels economic scarcity and risk for poverty for families. It also increases the probability that reunited family members, often female spouses, will end up working in the informal market. Working age family members who come to Spain as part of family reunification schemes should be granted work permits as part of the reunification process.

Finally, better regulation of the household service sector is badly needed. This situation is discussed specifically in the article presented here. Currently, verbal contracts are acceptable, which sets and informal tone for employers from the beginning, and leaves little recourse for workers when they feel the conditions of their contract are violated. Besides the regulatory improvements potentially on the horizon for these workers (see manuscript 2), one option for immediate improvement would be a standardized contract available freely (perhaps on the internet) to potential household service workers and their employers. This would have the dual benefit of formalizing the labor agreement and also serving as an educational tool, so that both parties are aware of their rights and obligations. Furthermore, formalization of household service employment would also mean greater possibilities for enforcing regulations regarding working hours and pay, two areas highlighted as problematic in this study. Finally, formalization of women who work in this sector opens the way for better health and safety training and regulation. Currently, regulations of the sector do not contemplate occupational injuries or illnesses, for

example. Though such regulation has the added difficulty of needing to function within private households, the granting of full "worker" status to a group of employees currently considered "special" would leave little excuse for not pursuing more stringent enforcement of standards.

5. CONCLUSIONS

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Improvements are needed in the working conditions of immigrant workers in Spain. This study should serve as a reminder that, despite advancements in occupational health for the population as a whole, poor and exploitive working conditions, and their related health, economic and social consequences are very real for many workers and their families. More research and action are needed, particularly in the areas of data collection, surveillance, and intervention. These studies may need to employ methods untraditional in occupational health research.

If studying immigrant populations is complicated, so it will also be to intervene for improved working and health conditions in this population. New partnerships will need to be formed, and creative and flexible approaches to problem solving will need to be developed, tested, and refined. However, the alternative to addressing this complicated situation is unacceptable; we cannot allow some workers to work at heightened health risk. But certainly, occupational health practitioners have encountered challenges before, and the worker population is the better off for their work. There is no reason to think the same cannot occur now.

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Appendix 1

Ahonen EQ, Benavides FG. Risk of Fatal and Non-fatal Occupational Injury in Foreign Workers in Spain. J Epidemiol Community Health 2006 May;60(5):424-6.

And

Correction to errors in published data table

Abstract

Study objective: In the past decade, Spain has experienced dramatic growth of its immigrant population. Available information on the occupational conditions of foreign workers is scarce. This study aims to add to this information by describing occupational injuries in foreign workers in Spain.

Design, setting, participants: Data were analysed from the 2003 Ministry of Labour and Social Issues registry of nonfatal and fatal occupational injury in insured workers. The population at risk was estimated from the Social Security Affiliation Registry as of 31 December 2003. Comparing Spanish with foreign workers and also considering age and sex, incidence rates and relative risks, and their confidence intervals at 95%, were calculated within each population group.

Main results: In women and in men, and in every age group, foreign workers had an increased risk of non-fatal and fatal occupational injury compared with Spanish workers. The differences were especially notable in foreign women workers and in older workers.

Conclusions: Many factors probably combine to cause the differences found in this study. Better data collection on the situation of foreign workers is needed to understand these facts and apply appropriate public health solutions.

Table 1. Incidence rates and relative risk (RR) of non-fatal and fatal occupational injury in Spanish and foreign workers by sex and age

	Spanish workers			Foreign workers				
	Injuries	Population at risk	Incidence rate 1	Injuries	Population at risk	Incidence rate 1	RR	95% CI
Non-fatal								
Sex*								
Men	600839	7684149	78.2	154413	510451	302.5	3.9	3.9 to 3.9
Women	171286	5264014	32.5	41855	237086	176.5	5.4	5.4 to 5.5
Age gr (y)#								
<25	148680	1649995	90.1	34384	97905	351.2	3.9	3.9 to 3.9
25-34	253592	4095577	61.9	68212	331423	205.8	3.3	3.3 to 3.4
35-44	186344	3482109	53.5	49991	217591	229.7	4.3	4.3 to 4.3
45-54	125061	2430629	51.5	30967	81571	379.6	7.4	7.3 to 7.5
>55	58448	1278970	45.7	12714	18630	682.4	14.9	14.7 to 15.2
	Spanish workers			**Foreign workers**				
	Injuries	**Population at risk**	**Incidence rate 2**	**Injuries**	**Population at risk**	**Incidence rate 2**	**RR**	**95% CI**
Fatal								
Sex*								
Men	1014	7684149	13.2	299	510451	58.6	4.4	3.9 to 5.1
Women	85	5264014	1.6	23	237086	9.7	6	3.6 to 9.6
Age gr (y)#								
<25	102	1649995	6.2	39	97905	39.8	3.4	4.3 to 9.4
25-34	255	4095577	6.2	86	331423	25.9	4.2	3.2 to 5.3
35-44	265	3482109	7.6	83	217591	38.1	5	3.9 to 6.4
45-54	279	2430629	11.5	71	81571	87.0	7.6	5.8 to 9.9
>55	198	1278970	15.5	43	18630	230.8	14.9	10.5 to 20.8

1 Incidence rate for 1000 worker / years
2 Incidence rate for 100,000 worker / years
* Population totals include 300 persons not classifiable by sex (totals not shown)
# Population totals include 1140 not classifiable by age (totals not shown)

Appendix 2

Benavides FG, **Ahonen EQ**, Bosch C. Riesgo de lesión por accidente de trabajo en trabajadores extranjeros, España 2003 y 2004. Gaceta Sanit. 2008. Jan.-Feb;1(22):44-47.

Resumen

Objetivos: Comparar el riesgo de lesiones por accidente de trabajo (LAT) según la nacionalidad para 2003 y 2004.

Métodos: Las LAT fueron agrupadas en trabajadores españoles y extranjeros. Para 2003, primer año en que se recogía esta variable y con un número importante de LAT con códigos inexistentes, hubo dos categorías de extranjeros: A, considerando las LAT con códigos inexistentes como extranjeros, y B, excluyendo las LAT con códigos inexistentes.

Resultados: El riesgo relativo (extranjeros frente a españoles) de LAT no mortales fue de 4,39 (intervalo de confianza [IC] del 95%, 4,38-4,42) y de 5 (IC del 95%, 4,5-5,6) para las LAT mortales, según la definición A, y de 0,72 (IC del 95%, 0,71-0,73) para las no mortales y 1,2 (IC del 95%, 0,9-1,5) para los mortales, según la definición B. En 2004, donde no hubo problemas en la codificación, el riego relativo de LAT mortales fue de 0,95 (IC del 95%, 0,94-0,96) y de 1,2 (IC del 95%, 0,9-1,4) para las no mortales.

Conclusiones: Estos resultados, tan contradictorios, obligan a seguir haciendo un seguimiento de este problema de salud laboral, a la vez que solicitar una gestión adecuada de la calidad de los datos.

Palabras clave: Salud laboral. Accidentes de trabajo. Prevención de riesgos laborales.

Appendix 3

López-Jacob MJ, **Ahonen EQ**, García AM, Gil A, Benavides FG. Lesiones por accidente de trabajo en trabajadores extranjeros por actividad económica y Comunidad Autónoma (España, 2005). Rev Esp Salud Pública 2008; 82: 179-187.

Resumen

Fundamento: Aunque el colectivo de personas inmigrantes en nuestro país se ha incrementado notablemente en los últimos años, poco se sabe de sus condiciones de trabajo y de los efectos de éstas en términos de lesiones por accidentes de trabajo. El objetivo de este trabajo fue comparar, para el año 2005, la incidencia de lesiones mortales y no mortales de las personas extranjeras con las de las españolas por actividad económica y comunidad autónoma.

Métodos: Los datos de lesiones por accidentes de trabajo (LAT) procedieron del Registro de Accidentes de Trabajo del Ministerio de Trabajo y Asuntos Sociales y los denominadores se obtuvieron de las estadísticas disponibles sobre afiliación a la Seguridad Social para el año 2005, seleccionándose en ambos casos los datos correspondientes a los afiliados al Régimen General de la seguridad social y al régimen de la Minería del Carbón. Se calculó la incidencia de lesiones mortales y no mortales por accidente de trabajo, así como el riesgo relativo (RR) y su intervalo de confianza al 95% (IC95%) para trabajadores extranjeros en comparación con los españoles por comunidad autónoma y actividad económica, tomando como referencia a los españoles.

Resultados: El riesgo relativo de LAT en trabajadores extranjeros fue 1,34 (IC95% 1,11-1,62) para LAT mortales y 1,13 (IC95% 1,13-1,14) para LAT no mortales, registrándose importantes diferencias entre comunidades autónomas y sectores de actividad.

Conclusiones: se confirma un mayor riesgo global de LAT
entre los trabajadores extranjeros que puede ser mayor que el observado. Las diferencias de riesgo entre actividades económicas y comunidades autónomas requieren análisis más detallados. En comparación con los trabajadores españoles, el riesgo de LAT es más elevado para los extranjeros en las actividades industriales, mientras que resulta inferior en la construcción, el comercio y la
hostelería. Por comunidades autónomas, Aragón y Cataluña muestran los riesgos más elevados para los trabajadores extranjeros.

Palabras clave: lesiones. accidentes de trabajo. inmigrantes. extranjeros. trabajo. salud laboral.

Appendix 4

Ahonen EQ, Benavides FG, Benach J. Immigrant populations, work and health—a systematic literature review. Scand J Work Environ Health 2007;33(2):96-104.

Abstract

Objectives: This paper summarizes the information on immigrant occupational health available from recent studies, incorporating varied study designs.

Methods: A systematic search was carried out in PubMed employing terms of interest to the study and related terms supplied by the same search engine. Articles were selected through the following process: (i) reading the title and abstract, in English or Spanish, for the period 1990–2005, (ii) reading of the entire text of selected articles; (iii) making a manual search of the relevant citations in the selected articles; (iv) eliminating articles without a focus on the themes of central interest (immigration, work, and health), and (v) reading and analyzing the definitive article set. No quality criteria were used in the article selection.

Results: The location of studies was not straightforward and required careful thought about the search terms. The included 48 papers were often multifaceted and difficult to categorize. They generally came from countries historically associated with immigration and described occupational risk factors, health consequences, and the social, economic, and cultural influences on worker health. They were also based on data, surveillance, training, and preventive measures that were inadequate.

Conclusions: Increased migration is a reality in industrialized countries all over the world, and it has social, political, and economic consequences for migrating groups, as well as for their sending and host societies. More reliable data, targeted appropriate interventions, and enforcement of existing regulations are necessary to improve the health of immigrant workers. Furthermore, studies in sending and developing countries should be encouraged to form a more complete understanding of this complex situation.

Key terms: foreign worker; labor migrant; migrant worker; occupational disease; occupational health; occupational injury; occupational safety.

Appendix 5

Interview guide for key informant interviews

Introduction

Briefly describe research project.

Ask informant to please briefly describe the organization in which she/he works. What does it do in general? What services do they offer to immigrant groups? If it is not an association specifically dedicated to immigrants, why do immigrants go there? What service demands are most frequent?

Explain that all questions refer to the immigrant populations that use THEIR services.

1) Immigrant characteristics

-Age, sex, educational attainment
-Place of origin and destination
-In which neighborhoods do they live and work
-Family situation
-Work history

2) Immigration / job market formality

- What do you see as the relationship between immigration and the informal job market?
- Do you believe that the situation for immigrants and Spaniards is different with respect to the informal market?
- Could you describe the sectors and economic activities or occupations that tend toward informality or that employ people illegally?

3) Empowerment and associative activity

Employment relations and social protection:

- What do you think the relationships between immigrant workers and their native peers are like in the workplace?
- Is it your impression that immigrant workers have social security or some sort of social protection?

Immigrants in empowerment or associative activities:

- What is your belief about the participation of immigrants in associative activities?

- Do you believe immigrants have the same workplace rights as native workers?
- If not, do you believe immigrants can exercise certain rights?

4) Work and employment precariousness

- What characteristics do the jobs immigrants work in Barcelona have?
- Is work important in the lives of immigrated people? What sort of place does it occupy in their lives?
- Are there aspects of the employment situation of immigrants that you would describe as precarious? Which ones?

5) Legal aspects: Here try to understand the legal circuit of residence-employment (ask only if the person is in a position to be knowledgeable about this)

- What are the requirements for foreign workers in Spain?
- What sorts of problems or inconveniences do you see related to those requirements?
- What do you believe is the proportion of documented and undocumented immigrants in Catalonia?
- What do you perceive to be the legal consequences of illegal work?

To finish up,

- Is there a particular immigrant group you believe we should include in this study?
- Do you believe there is any topic in particular we should be sure to include in our interviews and focus groups with immigrant workers?

Thank participant for her/his time.

Appendix 6

Preliminary fieldwork interview summary sheet

Basic data

Association:
Date:
Duration:
Contact person:
Recording:
Our perception:
Perception of the association:
Perception key informant:
Description of place and conditions:
Observations:

Interview content

Activities and services: **Degree of work with immigrants:** **Characteristics of immigrant clients:** **Type of work:** **Working conditions:** **Empowerment:** **Circuit of residency/work permits:** **Occupational health:**

Other

Appendix 7

Key informant study article

Resumen

Objetivo: Caracterizar colectivos de inmigrantes trabajadoresen España y conocer sus condiciones de salud laboral mediante informantes clave.

Método: Estudio cualitativo exploratorio-descriptivo con entrevistas en profundidad realizado en 2006. Se identificaron organizaciones, asociaciones y colectivos relacionados con la población inmigrante en Alicante, Barcelona, Huelva, Madrid y Valencia, y se seleccionaron los más accesibles y representativos. Se entrevistó a 43 informantes clave procedentes de 34 asociaciones u organismos. Se realizó un análisis narrativo del contenido.

Resultados: Se señalan dificultades para el reconocimientode los daños a la salud derivados del trabajo por las situaciones de irregularidad y precariedad, por resistencia por parte de los contratadores o las entidades aseguradoras, y por desconocimiento de los inmigrantes. Los informantes coinciden en que los riesgos laborales en los inmigrantes no difieren de los riesgos de los trabajadores autóctonos en similares circunstancias, pero los inmigrantes padecerían exposiciones más intensas por el acceso mayoritario a puestos menos cualificados y por la necesidad de prolongar las jornadas de trabajo. También se destaca su desconocimiento general en relación con los derechos de protección y de salud en el trabajo, aunque algunos informantes detectan un crecimiento de su actividad reivindicativa a través de los sindicatos.

Conclusiones: Este primer acercamiento ha permitido definir algunos condicionantes generales que influirán en la salud laboral de los inmigrantes. La información obtenida servirá de base para profundizar, mediante técnicas adicionales de carácter cualitativo y cuantitativo, en los problemas de salud laboral de los inmigrantes trabajadores en España dentro del marco del Proyecto Inmigración, Trabajo y Salud (ITSAL), actualmente en desarrollo.

Palabras clave: Emigración e inmigración. Salud laboral. Investigación cualitativa.

Appendix 8

Interview topic guide, ITSAL Study, Spain 2008

Introduction

Good morning/ afternoon. My name is_____ . I am from the Occupational Health Research Unit, and we are conducting a research project about immigrant workers and their health. The objective of the project is (a general explanation about the purposes). I hope that you will express freely your thoughts and opinions about your work, your experiences and personal impressions.

We expect the interview to take approximately one hour from this moment.

Participants received both verbal and written explanations of the study aims and methods and signed an informed consent form, using only their first names to maintain confidentiality. The sessions were recorded and the researchers also took notes. Participants received an honorarium (20€) to cover transportation costs.

Interview guide

1) Socio-demographics

-Characteristics of the place of birth (north-south; rural-urban area)
-Age at the time of arrival in Spain
-Length of time living in Spain. Ask about possible movements to other parts of the Spanish territory.
-Groups of reference at the time of arrival (friends, family, etc, waiting for him/her)

-Family composition (husband/wife; son/daughter; extended family) and family occupations

-Some references of the place where they live, accommodation/housing (number of people living in, shared flat/room, prices, etc)

***Note**: we also have a paper with some demographic questions that was completed during this first part*

2. Migratory process

-Motives for coming to Spain and also the city of arrival (Ex: Barcelona)

-Previous migratory experiences

-Difficulties in crossing borders

-Economic support for the trip (How he/she financed travel expenses)

3. Labour background in country of origin

-Occupational description

-Educational attainment

-Vocational training

-Working characteristics (types of tasks)

-Type of contract

-Working hours, workweek, free time

-Social benefits associated with the job

-Relationship with the employer and with other workers

-Union presence and associative patterns

4. Current work situation

-Current employment (status, opportunities for professional development)

-Correspondence between education/preparation and job
-Type of contract
-Working hours, work day
-Benefits
-Salary/Income
-Relationship with the employer and with other workers
-Transportation to the workplace (type of transport and commute time)

5. Occupational history in Spain

-Previous types of employment and work contracts in Spain
-Strategies and resources for employment search
-Frequency of job changes (probe periods of unemployment and presence of unemployment subsidy)
-Payment mechanisms
-Relationship with the employer and with other workers

Administrative/legal status

<u>For documented individuals:</u>
-Previous experiences in undocumented situation
-Difficulties managing the regularization processes
-Differences perceived between documented and undocumented situations
-Consequences of irregular status in daily life
-Access to employment
-Access to housing

<u>For the administratively irregular cases</u>:
The same points, but focus on the future perspectives of possible regularization process.

6. Treatment and discrimination

-Perceived discriminatory situations

-Differences in types and working conditions between immigrant workers and national ones

-Look for equity in: salary, treatment received from employers and partners, recognition as a worker and social benefits.

7. Labor union participation and/or associative patterns

-Labor union participation

-Capacity to exercise labor rights

-Collective bargaining agreement

-Available resources when needed

8. Health

-Perception of general health

-Changes in health status perceived since arrival

-Resources and information in case of necessity

-General wellbeing (physical and mental health)

-Perceived relationship between work and health effects

-Probe depression, mood changes, work satisfaction, motivation, sleeping problems, medication and substances consumption

9. Occupational hazards

-Specific hazards involved in task or duty

-Occupational hazard prevention training

-Perceived necessity of prevention training

-Previous experiences with injury. Available resources.

10. Future prospects

-Differences between previous expectations and current ones.

-Perception of the future

-Personal projects

-Plans for return to home country

11. Incomes and salary

-Incomes enough to cover basic needs/costs

-Supplementary incomes and resources

-Sending money to the family in country of origin

Note: this information may have already been provided during the interview.

Appendix 9

Immigrant informant interview summary

Basic data

Name:
Date:
Interviewer:
Duration:
Contact information:
Recording:
Signed informed consent:
General perception of interview:
Description of place and conditions:
Observations:

Interview content

Migratory process (regularization?):
Work history, country of origin:
Current occupational situation:
Work history in Spain:
Treatment / discrimination:
Union or associative activity:
Health:
Occupational hazards:
Previous and current perspectives / future plans:

Appendix 10

Informed consent form, ITSAL Study, Spain 2008

Facultat de ciencias de salud i de la vida
Parc de Recerca Biomédica de Barcelona
C/ Doctor Aiguader, 88, 08003 Barcelona/ tel: 93 542 1485/ 93 542 2863

Información del estudio

¿Quiénes somos?
La Unidad de investigación en Salud Laboral de la Universidad Pompeu Fabra es una entidad que se dedica a la docencia y la investigación de temas diversos en el campo de la salud laboral.

¿Qué hacemos?
Actualmente, estamos llevando a cabo un estudio sobre la salud laboral del colectivo inmigrado en España. Este proyecto tiene como objetivo conocer y describir los principales problemas de salud que tienen los trabajadores asociados a su trabajo.

¿Por qué?
Al aprender más sobre la salud de los trabajadores y conocer sus ideas, esperamos contribuir al proceso de mejorar la salud de ellos.

¿Qué pedimos?
Nos gustaría saber sus pensamientos y opiniones alrededor de su trabajo y su salud. Le pedimos su participación en una entrevista en profundidad/un grupo de discusión.

Las entrevistas tardan aproximadamente una hora, mientras que para los grupos de discusión pedimos dos horas.

¿Cómo se hace? ¿La información es confidencial?
Para las entrevistas, usted se reunirá con un miembro del equipo de investigación en un sitio acordado entre los dos. La/el investigadora le hará preguntas acerca de su experiencia en España, su trabajo y su salud. Tomará apuntes y, con su permiso, grabará la entrevista para poder volver a escucharla.

En caso de los grupos, se seguirá el mismo procedimiento, excepto que la conversación será entre un grupo de 6 personas y habrá 2 investigadores, una para guiar la conversación y otra para observar.

En los dos casos, lo que nos diga será mantenido en la confidencialidad. Su nombre no será usado en ningún informe. Solo los investigadores tendrán acceso a las conversaciones realizadas.

¿Qué haremos con la información?
La información que nos proporcione será utilizada por la unidad en informes, presentaciones y artículos, siempre sin incluir a nombres o información que podría identificarle a usted.

¿Qué gana por su participación?
La información que nos proporcione sobre su trabajo y su salud servirá para dar a conocer la situación en la que se encuentran los/as trabajadores inmigrantes en España y con ellos poder comenzar a realizar los cambios y mejoras necesarios.

Hoja de consentimiento informado

Yo, _____, estoy de acuerdo con participar en el estudio Inmigración, Trabajo y Salud de la Unidad de Investigación en Salud Laboral de la Universidad Pompeu Fabra.

Confirmo que he recibido _____ como compensación por mi desplazamiento y tiempo.

_____ _____
Firma participante Fecha

Appendix 11

Socioeconomic data collection form, ITSAL Study, Spain 2008

First name:

1. Year of birth:

2. Sex:

Male

Female

3. Neighborhood of residence

4. Marital status

Single

Married

Widowed

Separated/divorced

Other...

5. Children Yes No

How many?

How many are minors?

6. Place of birth

Rural or urban?

7. Educational attainment:

No formal education

I have no formal education but I can read and write

Partial primary school

Complete primary school

Partial secondary studies

Obligatory secondary education completed

College preparatory secondary education

University studies (Associate´s degree or similar)

Bachelor´s degree or higher

Other...

8. Time in Spain

9. Accumulated work experience in Spain (months)

Appendix 12

Procedures for interviews, transcriptions and analysis

1. Interviews
    - Individual interview date set.
    - Verbal explanation of purpose to participant. Participant given a written information sheet.
    - Interview recorded with consent (written and verbal) of participant.
    - 20 euros provided for thanks, transport and time.

2. Interview record
    - Recorded interview transferred from recorder to interviewer PC.
    - Written summary of the interview and the interviewer´s impressions are recorded and shared with the other interviewer.

3. Transcriptions
    - The audio recording and the interview record are given to one of 5 external transcribers employed by the research group.
    - The transcribed interview is returned to researchers.
    - Transcription revised and corrected by the researcher who did the interview. The corrected version is shared with the other researcher.

4. Analysis
    - Enter first-level codes (from interview guide) into Atlas.ti
    - First reading of the transcribed interview (on paper), no codes.
    - Second reading of the transcribed interview; descriptive first-level coding on paper.
    - Transcriptions loaded into Atlas.ti / first-level coding transferred.
    - Third reading of the interview; internal consistency checked (same coder); sub-codes and emergent (inductive) codes added; irrelevant codes eliminated, categories expanded and collapsed, etc.
    - Review as needed throughout study and as ideas develop
    - Multiple analyst comparison of code understanding/relevance; discussion of concept network
    - Description by category, comparison by sex, legal status, collectives
    - Specific analysis as needed

Appendix 13

ITSAL Survey tool ITSAL Study, Spain 2008 (first page only)

R-42647- Abril-08

ESTUDIO INMIGRACIÓN, TRABAJO Y SALUD (ITSAL)

NOMBRE DEL ENTREVISTADO:		**CUESTIONARIO:** /__/__/__/__/__/
DIRECCIÓN:		**Nº CONTROL:** /__/__/__/__/__/
		DURACIÓN DE LA ENTREVISTA: /____/____/ min.
TELEFONO: /__/__/__/__/__/__/__/__/__/		**FECHA DE LA ENTREVISTA:** /____/____/____/____/ 2.008
MUNICIPIO DONDE RESIDE: *USAR TARJETA DE MUNICIPIOS* /____/____/	**NIVEL DE ESPAÑOL:** . Muy bueno ..... 1 . Bueno..... 2 . Regular 3	**HORA DE LA ENTREVISTA:** Inicio /____/____/ h. /____/____/ min. Finalización /____/____/ h. /____/____/ min

BREVE INTRODUCCIÓN DEL ENTREVISTADOR Y EL ESTUDIO

Buenos días, me llamo _____ y trabajo para la empresa RANDOM, que se dedica a la investigación social. Actualmente estamos realizando una investigación sobre las condiciones de vida, trabajo y (sobre todo) salud de las personas que vienen de fuera. Es de mucho interés para nosotros conocer su experiencia en España y sus opiniones sobre algunas cuestiones. Sus datos personales no quedarán registrados en ninguna parte; sólo hacemos un tratamiento estadístico de la información que nos den todos los entrevistados. ¿Sería tan amable de responderme unas preguntas? La entrevista durará algo más de 20 minutos.

CRITERIOS DE SELECCIÓN DE PERSONAS A ENCUESTAR

I)¿Dónde ha nacido usted?

. Ecuador..... 1
. Marruecos 2
. Rumania..... 3
. Colombia..... 4
. Otro país ..... 5 ➔***Fin***

II)¿Tiene usted la nacionalidad española?

. Sí..... 1 ➔***Fin***
. No..... 2

III)¿Está usted casado o casada con un español o una española?

. Sí..... 1 ➔***Fin***
. No..... 2

IV)¿Trabaja usted como deportista, artista, estudiante de postgrado o ejecutivo (alto cargo) como ocupación principal?

. Sí..... 1 ➔***Fin***
. No..... 2

V)¿Lleva usted más de un año viviendo en España?

. Sí..... 1
. No..... 2 ➔***Fin***

VI)¿Ha trabajado usted durante al menos tres meses en España?

. Sí 1
. No ..... 2 ➔***Fin***

VII)¿Ha entendido usted lo que le he preguntado hasta ahora?

. Sí, he entendido todo..... 1

. Más o menos todo (Entrevistador: *tomar en cuenta para nivel de español*)..... 2
. No muy bien ..... 3 ➔***Fin***

Estudio financiado por el Instituto de Salud Carlos III. FIS PI050497, PI052202, PI052334

Appendix 14

Interviewer training manual, ITSAL Study, Spain 2008 (first page only)

ESTUDIO INMIGRACIÓN, TRABAJO Y SALUD
BRIEFING PARA ENTREVISTADORES

A. CUESTIONES GENERALES

1. ¿Para qué se hace este estudio?

Para saber en qué condiciones de trabajo y salud viven algunos colectivos de inmigrantes en España: ¿cuál es su estado de salud física y mental? ¿se respetan sus derechos laborales?; ¿a qué riesgos están expuestos en sus puestos de trabajo?...

2. ¿A quiénes entrevistaremos?

A personas de nacionalidad **rumana, marroquí, ecuatoriana y colombiana** (es decir, los colectivos más numerosos), que cumplan los siguientes requisitos:

- Que lleven viviendo en España al menos un año.
- Que tengan una experiencia laboral en España de al menos 3 meses.
- Con permiso de trabajo y sin permiso de trabajo.
- Que tengan un nivel de español al menos regular.
- Que NO tengan nacionalidad española, que NO estén casados con españoles(as), que NO sean deportistas, artistas ni ejecutivos.

Por todo esto, especialmente porque tenemos que entrevistar a personas que no tienen permiso de trabajo en regla, es **MUY IMPORTANTE GENERAR CONFIANZA**.

3. ¿Cómo generar confianza?

Tenemos que conseguir que los entrevistados:

- Sientan que no hay ninguna posibilidad de que la entrevista les perjudique en algo.
- Se convenzan de que nadie conocerá sus respuestas individuales ni sus datos personales.
- Sientan que el objetivo final del estudio es positivo para ellos mismos.

¿Cómo conseguirlo?

3.1. Actitud de los entrevistadores

Ya que entrevistaremos a personas que probablemente no hayan tenido una vida fácil, que hayan tenido experiencias duras o difíciles y que sigan teniendo dificultades en su vida cotidiana, es muy importante nuestra actitud frente a cada posible entrevistado. Por esto, recomendamos lo siguiente:

Empatía: consiste en ponerse en el lugar del otro. Es muy importante que nos pongamos en el lugar del entrevistado para que éste sienta que le entendemos y se cree un vínculo de confianza.

Appendix 15

Correspondence with journals about dissertation manuscripts

JECH Editorial Office
BMA House
Tavistock Square
London, WC1H 9JR
UK

Emily Ahonen
Occupational Health Research Unit
Universitat Pompeu Fabra
PRBB, first floor
Carrer Doctor Aiguader 88
08003 Barcelona, Spain
April 21, 2008

Dear Dr. Barreto**:**

We respectfully submit to you our manuscript entitled, "A qualitative study about immigrant workers´ perceptions of their working conditions in Spain", intended for consideration as an original research report in your journal. Using focus group and individual interview data from five immigrant groups, our study shows that these informants laboured under poor conditions that they believed negatively affected their health and that they had little power to influence because of their documentation and immigrant status.

We believe that this study highlights situations critical to the understanding of worker health in Spain and in other European countries, as well as calling attention to occupational health problems specific to immigrant workers. Marked growth of immigrant movement in Spain and in Europe as a whole in the last decades requires that public health professionals stay abreast of the potential health and social needs of a new population. Since the majority of new arrivals form part of the labour force, occupational health is at the very centre of any discussion on immigrant health needs in the public health field. Because of its international public health readership and social perspective on health, we deem the JECH an excellent venue in which to publish our work.

All study authors except María Luisa Vázquez contributed to data collection. All authors contributed to analysis, and critically reviewed the manuscript for intellectual content. Emily Q. Ahonen wrote the manuscript. All authors fulfil your criteria for authorship, and have read and approved the manuscript for submission. This manuscript will not be sent to any other journal while it is being considered by the JECH. We are aware of no competing interests. No approval by a university ethics committee was required for this study.

We hope you will find this paper appropriate for publication in the Journal of Epidemiology and Community Health. Thank you for your consideration.

Sincerely,

Emily Q. Ahonen (corresponding author)

Print Done

JECH -- Manuscript Decision

From: <vilma@ufba.br>
To: "Emily Q Ahonen" <emily.ahonen@upf.edu>
Cc:
Subject: JECH -- Manuscript Decision
Sent Date: Jul 28, 2008 8:18 PM
Received Date: Jul 28, 2008 7:19 PM
Priority: Normal
Attachments:

MS ID#: JECH/2008/077016
MS TITLE: A qualitative study about immigrant workers´ perceptions of their
working conditions in Spain

Dear Dr. Ahonen,

Thank you for submitting the above paper to JECH. Unfortunately, we are unable to accept it for publication in its present form. However, we shall be happy to reconsider it after revision, providing you have responded to the referees' comments. The revised version may be reviewed by the original or new assessors. Acceptance of the revised version cannot be guaranteed.

Please visit: http://submit-jech.bmj.com and enter the 'Author Area' and click on the 'Manuscripts with Decisions' queue to view the referee report(s). We hope you will find the comments useful.

If you wish to resubmit the paper, please do so within six weeks. Include a specific reply to each referee's comments, making it clear whether or not their suggestions have been accepted, reasons for rebuttal if not, and that appropriate

changes have been made in the text. Any new text should be written in red or in bold type. (The conversion process will accept any tracked changes, therefore if you wish the reviewers to view a "tracked changes" version of your document please upload this as a supplemental file and state
in your 'Response to Reviewers' that you have done this.)

To avoid any unnecessary delays, please pay careful attention to the following guidelines:

…style guidelines edited out for length EQA…

We look forward to receiving a revised version of your article, and will endeavour to process it as soon as possible.

Yours sincerely

Dr. Mauricio L Barreto
Editor in Chief

PLEASE NOTE: To submit a REVISED manuscript, visit your Author Area via: http://submit-jech.bmj.com and enter the Submit a Revision/Resubmission queue. Click on “Create a Revision” to begin your submission process.

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JECH Editorial Office
BMA House
Tavistock Square
London, WC1H 9JR
UK

Emily Ahonen
Occupational Health Research Unit
Universitat Pompeu Fabra
PRBB, first floor
Carrer Doctor Aiguader 88
08003 Barcelona, Spain
September 2, 2008

Dear Dr. Barreto**:**

We respectfully re-submit to you our manuscript entitled, "A qualitative study about immigrant workers´ perceptions of their working conditions in Spain", intended for consideration as an original research report in your journal. We have considered the comments of both reviewers and believe the manuscript is improved.

All study authors except María Luisa Vázquez contributed to data collection. All authors contributed to analysis, and critically reviewed the manuscript for intellectual content. Emily Q. Ahonen wrote the manuscript. All authors fulfil your criteria for authorship, and have read and approved the manuscript for submission. This manuscript will not be sent to any other journal while it is being considered by the JECH. We are aware of no competing interests. No approval by a university ethics committee was required for this study.

The Corresponding Author has the right to grant on behalf of all authors and does grant on behalf of all authors, an exclusive licence (or non exclusive for government employees) on a worldwide basis to the BMJ Publishing Group Ltd and its Licensees to permit this article (if accepted) to be published in JECH editions and any other BMJPGL products to exploit all subsidiary rights, as set out in our licence (http://jech.bmj.com/ifora/licence.pdf).

We hope you will now find this paper appropriate for publication in the Journal of Epidemiology and Community Health. Thank you for your consideration.

Sincerely,

Emily Q. Ahonen (corresponding author)

MS ID#: JECH/2008/077016

MS TITLE: A qualitative study about immigrant workers´ perceptions of their working conditions in Spain

All authors would like to thank both reviewers for their comments and suggestions. Their mentions of the strong points of the paper are certainly much appreciated, and they bring to light several important issues that need further discussion and clarification. These points are discussed below individually, and any changes made to the manuscript text are indicated here as well as in the text in red print. We believe the revised version of the manuscript is improved.

Reviewer 1

This is a well-written, easy to read, qualitative analysis of information from immigrant workers in Spain. The methodology used provides a useful way to glean important information that is unlikely to be available through the use of traditional epidemiologic approaches. The authors clearly describe their approach, methods, and limitations of their work; they present the findings without overstatement or making unwarranted conclusions.

I recommend acceptance of the manuscript. I have made a few minor suggestions/clarifications that would have made the work more useful to me.

Thank you for the opportunity to review the manuscript.

1. Numerals at the beginning of a sentence should be spelled out I believe.

Thank you. The corrections have been made in the text.

2. Page 4: Are there any publications that can be cited regarding the larger, multi-method study?

The article cited in the Data Collection Methods section (Garcia et al 2008) is the only one currently published from

the qualitative portion of the project, though several others are now in various phases of development and publication. The published article does not explain the study in its entirety, which is why we have included a brief description in Reviewer 2's point 4. The mention of the study in the manuscript text as well (p. 4) addresses Reviewer 2's request for more contextual information about the study.

3. Page 9: The term 'segmented' is used twice; does this mean stratified or segregated?

That depends on the place it is mentioned. You are right that the language was confusing.

Participants in focus groups were segregated by their documentation status (authorized to reside in Spain or not) and by their sex. So, four varieties of groups took place: documented men, undocumented men, documented women, undocumented women. Likewise, in the cases where individual interviews were conducted, participants who fit those same four profiles were sought.

In terms of the analyses done, these segregations were maintained; data from each of the four groups were analyzed separately.

The text has been changed to read segregated when referring to the focus group composition, and stratified in terms of analysis (p.10).

4. Why were workers not paid equally in each area?

This comment brings to light a correction that needed to be made; Alicante was the only area that did not pay participating workers. This decision was made by researchers there, and was because of funding limitations. This text has been added on p.10.

5. Page 10: The last sentence refers to triangulation using existing literature and administrative data. This point seems

to be more one of consistency to mention in the discussion rather than triangulation.

Thank you, it has been omitted from the Methods section and several consistent points are highlighted in the Discussion section on pp. 21 and 22.

6. Page 12; chemical hazards they 'lived' in their jobs perhaps should read 'had'?

Thank you, it has been corrected.

7. Page 13: Although not doubting that these workers were paid 'poorly or very poorly,' can this be quantified in any manner? This is very subjective.

We have provided a range of monthly pay reported by informants in order to be more specific. This is on p. 14. The idea of "poor" pay is necessarily subjective, since it comes from the perceptions the informants had about the adequacy of their pay, but we agree that adding a range helps readers to have an idea of what they mean.

In the Discussion (p. 23), for comparison, we have added text that explains that the minimum wage established for the year 2008 is 600 euros a month, or 8,400 euros a year. What such quantifies buys varies significantly by geographic area.

8. Page 16: Informants reported perfunctory training. This is not exclusive to immigrants; even union construction workers report similar experiences which might be worth mentioning (Lipscomb et al, 2008, AJIM) though I do not care if you cite me or not.

We are familiar with your study with union construction workers, and thought of it several times in reference to our study population when we found it. We now better see a specific point in the manuscript where such a comparison is useful. It is mentioned in the Discussion section (p.22).

9. Page 17: Mid page again 'lived' seems inappropriate, perhaps 'expressed among' might be better.

You're right. It has been corrected.

Reviewer 2

This paper is a welcome addition to the literature on immigrant workers' health and safety. The manuscript appropriately describes the study as exploratory and descriptive, as no specific hypotheses are put forward or tested. Nevertheless, using qualitative methods, the results of the interviews help provide a picture of the immigrant experience as it relates to working conditions, especially safety and health concerns.

1. Nevertheless, the analysis remains frustratingly crude. Given that over 150 interviews were conducted, there is no attempt to quantify the frequency or strength of specific concerns or issues being raised. While identification of specific 'poor working conditions' is illustrative, there is no attempt to quantify the frequency with which such conditions occur, whether this frequency is related to type of industry, or if the frequency is in any way different from the non-immigrant Spanish population. It is particularly frustrating that, although there are comments about working conditions being unrelated to documentation status or gender, there is no direct analysis to support these conclusions. If results could in any way be stratified by these groups, it would greatly support some of the basic conclusions cited in the paper.

This study was qualitative, exploratory and descriptive. An exploratory study design is employed when little previous description exists about the study subject. In such a study, the aim is to identify themes and composition within the study subject, and to generate hypotheses for future study. A descriptive study intends to document and describe and phenomenon and how it comes to pass in greater detail and depth (Marshall & Rossman 1990). Here we aimed to do both. This text was added to the manuscript on p. 6 in order

to clarify this point. As such, the description provided here is somewhat general, by nature of the methodology chosen.

While participants mentioned working conditions for Spaniards, and such data are mentioned here, this was NOT a comparative study between Spaniards and non-Spaniards. The study involved only immigrant workers. The next phase of the larger project will use survey research to explore the working conditions of both Spaniards and immigrant workers and will allow such comparisons.

In terms of our presentation of data, Pope and colleagues help to clarify our choices when they explain that:

"Qualitative research does not seek to quantify data. Qualitative sampling strategies do not aim to identify a statistically representative set of respondents, so expressing results in relative frequencies may be misleading. Simple counts are sometimes used and may provide a useful summary of some aspects of the analysis". (Pope C, Ziebland S, Mays N. Qualitative research in health care. Analysing qualitative data. BMJ 2000; 320:114-6)

In terms of stratification by gender, industry, or documentation status, we would like to reiterate that analyses were done separately by sex and documentation status, as described on p. 10 of the Methods section. Differences by those traits were noted and are mentioned in the manuscript. We did not stratify by industry, but nonetheless some differences are noted. We considered presenting data by stratification criteria in early drafts, but found that the result was repetitive to read. As such, we decided to present the results by thematic categories, mentioning differences by stratification group where they existed. While we appreciate the suggestion, we believe that the paper is more readable arranged the way it is.

2. The beginning of the results section notes that the analysis was done in three categories (working conditions, perception of hazards, influence of immigrant status). It then states that

there are “four narrative sections that include the description of each factor and the informants’ beliefs about their effects.” The following narrative includes only three sections, which are labeled “General perceptions of working conditions,” “Working conditions and hazards,” and “Formal risk prevention.” This requires reworking so that the three categories, four narrative sections, and the subsequent section headings are consistent. Also, the “factors” described in each section should be more clearly defined.

The three categories for analysis were those mentioned, and were the three broad categories that were part of our initial coding scheme. The initial coding scheme was developed a priori, and came from our study interests, a preliminary study with key informants, and themes identified in the literature, as described on p. 10 of the manuscript. Those categories had subcategories that were developed, expanded and collapsed as needed throughout analysis, a strategy consistent with a mixed-generation scheme of analysis of the type used here.

In that way, the four narrative sections that follow (the fourth is titled “Papers”, immigrant status, and “no choice”, and begins on p. 17) are thematic and indicate the issues reported by informants from within the initial coding and category scheme. The sections were so divided to best represent the data gathered from informants, not necessarily to represent the coding scheme we used in analyses.

We agree, however, that “factor” is an empty word in this case, and see that the whole sentence mentioned by the reviewer was nonsensical. To address this problem, the text on p. 12 has been changed to read:

“The final broad categories of analysis were working conditions, perception of hazards, and influence of immigrant status. Here data from those initial coding categories and emerging sub-categories are structured into four narrative sections that summarize the main findings thematically.”

One subheading has also been changed to read, “Overview of working conditions”.

3. In the methods section, some attention is provided to data quality and use of “triangulation.” However, no results of these methods are described. If in fact triangulation was done, and some data quality issues were identified, then these should be discussed.

The following text has been added to p. 12 in order to clarify this point:

“ Differences among analysts were addressed by discussion among analysts and by returning to the original data until a consensus was reached.”

4. The introduction states that this qualitative survey was part of a larger study and in the tables, the ITSAL project is mentioned. It is important to provide a bit of context for this study, and describe the larger study of which it is a part. How does this qualitative portion fit into the larger aims of the study, and how do the methods and sample relate to each other?

Please see also the response to Reviewer 1’s comment number 2 and added text on manuscript pp. 4- 5.

The Immigration, Work and Health project (ITSAL, in the Spanish acronym), *funded by the Spanish National Institute of Health (Instituto de Salud Carlos III), is a three-year, coordinated project consisting of three sub-studies that involved researchers in five Spanish cities. Its general objective is to study the working conditions and characteristics of precarious employment in immigrant workers and their relation to health. It is a multi-method study involving quantitative and qualitative phases and included both primary and secondary data. The third sub-study is ongoing, with analyses of a population survey currently underway.*

The qualitative portion fits into the cycle of question-asking and answering that characterizes this study. Certain study questions existed from the beginning of the project, and

others were added after analyses of occupational injury data in the first phase of the project, and still more surfaced as we gained answers to those in the qualitative portion. All these questions have been incorporated into a questionnaire the group designed, the analysis of which will no doubt generate more questions as well as answers.

5. There are a number of awkward uses of English language, presumably as
a result of translation. For example:

In the abstract, what is an 'undocumented situation'? The use of the word 'collective' is misleading. I believe the intended word is 'group.'

Documented or undocumented refers to whether or not the participants were legally authorized to live in Spain or not. The text has been modified and now reads, "who were authorized (documented) or unauthorized (undocumented) residents in five Spanish cities". Likewise, "collective" has been changed to "group" in each place it appeared. Thank you. See pages 2, 6, 7 and 12.

6. In describing the participants (p5), the language is unclear. For instance, I think it should read "…at least one year residence in Spain" and "…at least three months working in Spain."

Thank you. This language has been introduced on p. 6.

7. Use of the phrase "moderate dominion of Spanish" is not common usage. I suggest "moderate fluency in Spanish".

Thank you. This language has been introduced on p.7.

8. Use of the word 'segmented" is awkward and not specific (p9). If it refers to data analysis, then the word should be "stratified." However, in the first line of paragraph 2 on p9, it is not clear if focus groups were segregated by sex and legal status, or if only their responses were stratified into the four groups.

Thank you. Please see the response to Reviewer 1's point number 3 and language added on p. 10.

9. In general, the paper should be reviewed for clarity and English usage.

The original version of the manuscript and review of the final version were done by a native English speaker. Adequate terms are sometimes hard to find when moving between languages, and this has been a challenge in the study. We have reviewed the manuscript again and hope that it is improved in clarity and style.

Steven B. Markowitz, Editor-in-Chief
American Journal of Industrial Medicine

Emily Q. Ahonen
Occupational Health Research Unit
Universitat Pompeu Fabra
Division of Environmental and Occupational Health Sciences
University of Illinois at Chicago School of Public Health
October 7, 2008

Dear Dr. Markowitz:

I respectfully submit to you our manuscript, titled *Invisible work, unseen hazards: the health of women immigrant household service workers in Spain.* It is intended for the special issue on Immigration and Occupational Health. I am submitting it early per a process clarification by Dr. Suzette Smiley-Jewell.

Those who work in paid household service have been largely absent from occupational health research. Immigrant women, who increasingly fill these jobs in Spain, are even more invisible to both the research and lay communities. Using data from individual interviews and focus groups with 46 immigrant women in Spain, we examine the occupational hazards and health effects they identified, as well as the social and economic circumstances surrounding these issues. Our data show they are exposed to health hazards. The participants reported environmental, ergonomic, and psychosocial hazards. The latter were especially present, and received special attention in a second phase of analysis. We also discuss several important emerging categories of analysis, and suggestions for action in the areas of improved legislation, enforcement, and preventive workplace measures.

We hope you will find our manuscript appropriate for publication in the special issue on Immigration and Occupational Health. Please do not hesitate to contact me for further information or clarifications. Thank you for your consideration.

Sincerely,
Emily Q. Ahonen
Corresponding author

Print Done

American Journal of Industrial Medicine - Decision on Manuscript ID AJIM-08-0177

From:	<ajim@wiley.com>
To:	<emily.ahonen@upf.edu>, <ahonen@uic.edu>
Cc:	
Subject:	American Journal of Industrial Medicine - Decision on Manuscript ID AJIM-08-0177
Sent Date:	Dec 19, 2008 4:33 PM
Received Date:	Dec 19, 2008 4:35 PM
Priority:	Normal
Attachments:	* AJIM-PROD-REQ.doc

19-Dec-2008

Dear Ms. Ahonen,

Manuscript ID AJIM-08-0177 entitled "Invisible work, unseen hazards: the health of women immigrant household service workers in Spain" which you submitted to American Journal of Industrial Medicine has been reviewed. The comments of the referee(s) are included at the bottom of this letter.

A revised version of your manuscript that takes into account the comments of the referee(s) will be reconsidered for publication.

Please note that submitting a revision of your manuscript does not guarantee eventual acceptance, and that your revision may be subject to re-review by the referee(s) before a decision is rendered.

You can upload your revised manuscript and submit it through your Author Center. Log into

http://mc.manuscriptcentral.com/ajim and enter your Author Center, where you will find your manuscript title listed under "Manuscripts with Decisions".

When submitting your revised manuscript, you will be able to respond to the comments made by the referee(s) in the space provided. You can use this space to document any changes you make to the original manuscript. Please review the attached document listing the file requirements for your revision.

IMPORTANT: We have your original files. When submitting (uploading) your revised manuscript, please delete the file(s) that you wish to replace and then upload the revised file(s).

Once again, thank you for submitting your manuscript to American Journal of Industrial Medicine and I look forward to receiving your revision.

Sincerely,

Steven Markowitz MD
Editor-in-Chief
American Journal of Industrial Medicine

Referee(s)' Comments to Author:

Reviewing: 1
Comments to the Author
Manuscript AJIM-08-0177 "Invisible work, unseen hazards: the health of women immigrant household service workers in Spain"

Comments for the authors and the editor:

This ms is an example of some of the new and ground breaking work being done in occupational health studies.

Designing and conducting studies of non-unionized workers who generally work by themselves, often in an unregulated informal economy is a challenging task and not one undertaken by many researchers. This study is also significant because immigrant household service workers are becoming increasingly common in many first world countries with growing immigrant populations, such as Spain and the US.

The authors use of qualitative methods is appropriate for an exploratory study of this group of workers, about whom little is known. The authors examine different dimensions of occupational hazard which emerged from their analysis: environmental, ergonomic and psychosocial. They include recommendations for improved regulations to reduce some occupational risks.

My suggestions for revisions are mostly requests for additional information or clarification.

p. 2 The article is aimed at an audience beyond Spain and so readers will need brief explanations of Spanish organizations such as “Special Household Service Regimen.”

p. 4 A short summary of how the workers were located and selected would add important information to the methods for those who are not familiar with the previously published work of this group.

p. 4 I could not find information in the ms on human subject protections; confidentiality of the interviews; if honorariums were paid to participants; where the interviews and focus groups were held and why they were held there. Also, were undocumented household workers concerned about talking to researchers? This information should be added.

p. 5 Some of the authors’ word choices are not exactly the ones commonly used in American English, I don’t know about British English, and may cause misunderstandings

by readers. Under “Data analysis” the authors use “revision” and I think they mean “review” of the transcripts. That entire paragraph could be much shortened and clarified.

p. 7 and p. 15 The documented/undocumented status of workers is used throughout the paper as a major category. However, in the first paragraph of “Results” they assert that this status primarily affected workers perceived bargaining power in the workplace, not the tasks they perform. Some more data on how the workers use their bargaining power, or lack thereof, would enable readers to better understand the role of documentation as it possibly contributes to increased exposure to work hazards.

p. 9 The presentation of the results is well done, clear and effective.

p. 15 The hazards of many household cleaners (bleach, ammonia, etc.) are well documented and the physical reactions some workers describe are typical of these products. Citing such documentation would strengthen the validity of the testimony of the household workers and put their complaints into context.

p. 17 Many readers of AJIM are not familiar with the feminist research perspective and a short explanation would be helpful.

p. 19 Conclusion is concise and well stated.

p. 28 Table 1 I found this table difficult to read because of the layout. The alignment of the numbers with categories is not easy to discern—especially “Total from origin.” Lines or gray shading or changes in the width of columns would be a big help.

p. 30, 32, 33 The quotations are well selected, support the authors’ points and are very well organized. The identification of the speakers by nationality, documentation status, and qualitative method used to collect the data (II or

FG) is helpful and is often neglected in qualitative research published in primarily quantitative journals.

Reviewing: 2
Comments to the Author
This manuscript describes an exploratory qualitative study on female immigrant workers in household service. The topic is quite innovative and the published article will help significantly to draw the attention to a highly neglected occupational group. The study design (exploratory, descriptive, qualitative) is appropriate for the researched topic. The manuscript reads well and is well organised. I recommend publishing the manuscript with some revisions.

1. The description of the findings in the abstract is too unspecific. A few major findings should be added.

2. Details on the sampling process are missing. Although details are published elsewhere the authors should describe how the fourty-six women were selected from the larger study to allow the reader to judge the sample appropriateness and maybe the generalisability of results. What were the eligibility criteria? Were there any exclusion criteria? Did any women refuse participation and why?

3. I liked the approach of the authors to conceptualise the analysis of the findings using well-known elements of models of psychosocial hazards (demand/control model, eri model). However, the conceptualisation appears to be somewhat hap-hazard. The authors mention the Copenhagen Psychosocial Questionnaire as their basis, but somewhat arbitrarily choose 4 dimensions from it. They should either argue that they apply dimensions of the JCQ and ERI or use the dimensions specified in the Copenhagen instrument more diligently. There are actually several additional dimensions in the COPSOQ that are relevant to service work and show up implicitly in the findings of this study, e.g. such as emotional demands, influence at work, degrees of freedom, meaning of work, role clarity, social relation and predictability.

4. The authors mention that they used multiple analysts for quality control of the data but did not specify any further how this was done. Did the authors calculate any measures of interrater reliability or, at least, did they have a process of discussion between the multiple analysts in case of discordances in categorising and interpreting the findings?

5. I miss a statement in the methods section whether the study was approved by an ethics committee and whether ethical issues were considered at all. The study includes undocumented women who are a highly vulnerable group. How was anonymity and confidentiality maintained? Also I would like to see a statement on how the study was explained to the participants. Where they informed about the purpose of the study?

6. One of the main arguments used to criticize qualitative studies is that the authors find in the data what they expect to find. A way to increase scientific rigour of qualitative studies is to discuss negative findings and to consider alternative explanations of the findings. I suggest that the authors review their results accordingly.

7. I enjoyed reading discussion and the conclusions. These sections raise a few important issues, especially the issue of a regulatory framework. It would be useful to have a few more details on how a regulatory framework in this sector of informal work could look like. The authors may refer to the ongoing discussion in the Spanish parliament or to other European countries where regulatory frameworks are in place.

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Editor's note: Please specify in Methods about IRB approval and written informed consent. Also specify funding source in Acknowledgements Section.

Appendix 16

Other co-authored manuscripts and presentations

Manuscripts

Porthé V, **Ahonen E,** Vázquez ML, Pope C, Agudelo AA, García AM, Amable M, Benavides FG, Benach J, for the ITSAL Project. Extending a model of precarious employment: a qualitative study of immigrant workers in Spain. (submitted)

Abstract

Background: Since the 1980s, labor market changes have modified power relations between capital and labor, leading to an increased precarious employment among workers. Globalization has led to a growth in migration as people leave their countries in search of work.We aimed to describe the dimensions of precarious employment for immigrant workers.

Methods: Qualitative study using analytic induction. Criterion sampling was used to recruit 129 immigrant workers in Spain with documented and undocumented administrative status. Quality of data was assessed by triangulation.

Results: Immigrant workers perceived precarious employment as characterized by high job instability, reduced power to negotiate employment conditions and defenselessness to high labor demands. They perceived insufficient wages, long working hours, limited social benefits and difficulty in exercising their rights. Undocumented workers perceived greater defenselessness and worse employment conditions.

Conclusions: This study allowed us to describe the dimensions of precarious employment in immigrant workers.

Keywords: precarious employment, immigrant, employment conditions, health and wellbeing.

Porthé V, **Ahonen E**, Vázquez ML, Vives A, Amable M, Benavides FG, Muntaner C, Benach J, for the ITSAL Project. The consequences of precarious employment on the health and wellbeing of immigrant workers. (submitted)

Abstract

Objectives: Since the 1980s, changing power relations between capital and labour have lead to the emergence of new labour markets. The following increased increase in precarious employment has had a profound and negative impact on workers' health. In addition, globalization has led to a growth in economically motivated migration. Therefore, our study aims to describe the consequences of precarious employment on the health of immigrant workers.

Methods: This is a qualitative descriptive and interpretative study. Criterion sampling. Data were collected between September 2006 and May 2007 through semi-structured individual interviews and focus groups, with a topic guide. One hundred twenty-nine immigrant workers composed the final sample. Their countries of origin were: Colombia (n=21), Ecuador (n=25),Morocco (n=39) and Romania (n=44), were residents in Spain, with either authorized (documented) and unauthorized (undocumented) administrative status.

Results: Precarious employment of immigrants may lead not only to direct effects on health(i.e. musculoskeletal and digestive problems) but also to other health-related problems such as dissatisfaction, stress, worse psychosocial factors, poor 'life-styles', and consumption of alcohol or medications. These workers are also exposed to low paid jobs and highly unstable incomes.

Conclusion: Precarious employment in immigrants not only refers to employment and working conditions, but may also interact with social precariousness making these workers particularly vulnerable.

Keywords: employment conditions, precarious employment, immigrant, perceived health, well-being.

Presentations

Preliminary results of portions of this study were presented in the following conferences and scientific meetings:

- 19th Annual International Conference on Epidemiology and Occupational Health (EPICOH) 2007. Banff, Alberta, Canada October 12, 2007.
- XXIV Reunión Científica Anual de la Sociedad Española de Epidemiología [XXIV Annual Scientific Meeting of the Spanish Epidemiological Society], Logroño, La Rioja. October 5, 2006.
- XI Congreso Nacional de la Sociedad Española de Salud Pública y Administración Sanitaria (SESPAS) [XI Nacional Congress of the Spanish Public Health and Health Administration Society]. Occupational Health Working Group, November 3, 2005, Las Palmas, Gran Canaria.

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