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BRIEF COMMUNICATION

The Impact of Education and Socioeconomic and Occupational Conditions on Self-Perceived and Mental Health Inequalities Among Immigrants and Native Workers in Spain

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Abstract There is limited evidence on the influence of social determinants on the self-perceived and mental health of immigrants settled at least 8 years in Spain. The aim of this study was to examine differences between workers related to migrant-status, self-perceived and mental health, and to assess their relationship to occupational conditions, educational level and occupational social class, stratified by sex. Using data from the Spanish National Health Survey of 2011/12, we computed prevalence, odds ratios and explicative fractions. Mental (OR 2.02; CI 1.39–2.93) and self-perceived health (OR 2.64; CI 1.77–3.93) were poorer for immigrant women compared to natives. Occupational social class variable contributes 25 % to self-perceived health OR in immigrant women. Settled immigrant women workers are a vulnerable group in Spain.

Keywords Occupational health · Immigrants · Workers · Health inequalities

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Introduction

Work is one of the primary drivers of migration to another country. Working brings with it exposure to certain negative working conditions -such as a poor psychosocial environment or physical hazards-but has the positive effect of income, better living conditions, social prestige and contribution to individual identity [1]. Along with occupation and education, working conditions are indicators of socioeconomic position, which is also a determinant of migrant health.

Little is known about the extent to which working conditions explain health inequalities among immigrant and native workers. Recently, a Swedish study estimated that exposure to adverse working conditions accounted for 11 % of the difference in poor self-rated health (OR 1.84; CI 1.23–2.74) among Latin American immigrants compared to natives [2].

Spain is a recent host country. From 2001 to 2011 the immigrant working population increased from 5.58 to 12.52 % of the working population [3]. Given the high growth of the immigrant population in Spain and recent evidence on disparities in exposure to adverse working conditions related to migrant status [1], the relationship between settled migration, health, work and social characteristics warrants more attention. The aim of this study was to examine the differences in self-perceived health and mental health between immigrant and native workers-both

men and women- in Spain, and to assess the contribution to differences in occupational conditions, educational level and occupational social class, in a national sample of active workers.

Methods

Data from the Spanish National Health Survey (SNHS), a cross-sectional survey carried out between July 2011 and June 2012 by personal interview are freely available and meet the criteria of the Spanish Law on Public Statistics for confidentiality and anonymity in data.

The questionnaires were administrated by computer-assisted personal interview across the country. Respondents were chosen after a three-stage stratified sampling process. First, census tracts were grouped into strata according to the size of the municipality. Second by household were chosen randomly. Third, an adult in each household was chosen randomly. The survey administration took place in each household. The response rate was 71.06 %.

For this study only workers employed (in any paid job) at the time of the interview were selected. The sample size was 8591 individuals.

Measures

The dependent variables are two health outcomes, self-perceived health and mental health. Self-perceived health status was obtained by asking the respondents to describe their general health referring to the past 12 months and was re-coded, combining the categories fair, poor and very poor to indicate poor self-perceived health and the categories good and very good to indicate good health status. Mental health was measured with the 12-item General Health Questionnaire, and participants scoring 3 or more were classified as having poor mental health [4].

The main independent variable was migratory status. Settled immigrants were defined as persons born in low-income countries- defined as those countries not classified by the International Monetary Fund as advanced economies- who had been residing in Spain for at least 8 years, following the Eurostat definition of settled immigrant [5]. Natives were defined as the population born in Spain and served as the reference group.

Educational level was grouped into three categories: university, secondary school and basic or no-schooling. Occupational social class based on current population was dichotomized into manual/non-manual categories [6]. Four occupational condition variables were included: work related stress, job satisfaction, physical demands and employment conditions. 'Work related stress' and 'job satisfaction' were measured on a scale from 1 to 7. Both were dichotomized, considering <5 as low job satisfaction and 5 or more as high job stress. 'Physical demands at work' was dichotomized into exposed and non-exposed. 'Employment conditions' was based on contract terms and called 'employment relationship'; there were four categories: 'entrepreneur with employees' and 'cooperative member' as reference category, 'permanent contract or official', 'entrepreneur without employees or family assistance', 'temporary contract' and, finally, 'verbal contract or no contract at all'.

Analysis

All the analysis was performed separately by sex. Prevalence and distributions were calculated, and Chi squared tests were applied to study the differences.

Seven multivariate logistic regression models were developed to estimate odds ratios (OR) with 95 % confidence intervals (95 % CI). Model 1 controlled only for age (ORa). From Model 2 to Model 7 each independent variable was included one by one, separately (ORb). Model 8 was adjusted by three variables (ORb). We calculated Explained Fractions to estimate the influence of each variable and all variables together using the equation $EF = [(ORa\text{-}1) - (ORb\text{-}1)]/(ORa\text{-}1)]$. Sampling weights derived from the sample design were applied.

All statistical analysis was performed using the statistical package Stata 11.1.

Results

Table 1 shows the distribution of the socio-demographic characteristics, working conditions and health indicators by sex between immigrants and natives. For women, a higher proportion of natives (31.9 %) reported university studies than immigrants (12.9 %), and a smaller proportion of natives reported low education (7.4 %) than immigrants (13.1 %). Regarding occupational social class, 74.7 % of immigrant men and 82 % of immigrant women were manual workers. Immigrants reported more exposure to physical demands (38.3 vs. 24.3 % men; 31.3 vs. 13.7 % women) and higher prevalence of temporary, verbal or no contract than natives. Settled immigrant women have a higher prevalence of poor self-perceived health (34.6 %) and poor mental health (30.1 %) than native women (17.7 % in both health outcomes). No significant differences were found in the prevalence for men.

Table 2 shows the multivariate logistic regression models for self-perceived health and mental health. Adjusted only by age, Model 1 shows immigrant women were more likely to report poor self-perceived health (OR 2.64

Table 1 Social characteristics, occupational conditions and prevalence in settled immigrants and natives in Spain, SNHS 2011/12

	Men[a]					Women[a]				
	Natives		Immigrants			Natives		Immigrants		
Total n (%)	4402 (92.5)		354 (7.4)			3478 (90.7)		357 (9.3)		
	N	%	N	%	*p*	n	%	N	%	*p*
Age					0.009					0.215
<40	1857	42.2	186	52.6		1600	46.0	183	51.4	
≥40	2545	57.8	168	47.4		1878	54.0	173	48.6	
Educational attainment[b]					0.377					<0.001
High	977	22.2	63	17.8		1108	31.9	46	12.9	
Medium	3021	68.6	255	72.1		2112	60.7	264	74.0	
Low	404	9.2	36	10.1		257	7.4	47	13.1	
Occupational social class					<0.001					<0.001
Non-manual	2026	46.4	90	25.3		1785	51.6	63	18.1	
Manual	2341	53.6	264	74.7		1677	48.4	285	81.9	
Occupational conditions										
High job strain					0.057					0.018
Yes	2292	52.7	156	44.8		1870	54.2	149	43.9	
No	2060	47.3	191	55.2		1580	45.8	191	56.1	
Low job satisfaction					0.9152					0.124
Yes	936	21.5	77	21.8		641	18.6	80	23.5	
No	3420	78.5	276	78.2		2811	81.4	262	76.5	
Exposed to physical demands					<0.001					<0.001
Yes	1064	24.3	136	38.3		476	13.7	112	31.3	
No	3321	75.7	219	61.7		2991	86.3	245	68.6	
Working arrangements					<0.001					<0.001
Entrepreneur with employees	311	7.2	19	5.4		145	4.2	10	2.9	
Fixed	2688	61.9	189	55.0		2203	64.4	188	54.8	
Self employed/entrepreneur without employees	668	15.4	37	10.9		350	10.2	23	6.7	
Temporary contract	550	12.6	89	25.9		562	16.43	77	22.5	
No contract or verbal contract	125	2.9	9	2.7		162	4.7	45	13.1	
Health outcomes										
Poor self-perceived health	661	15.0	60	17.0	0.512	615	17.7	123	34.6	<0.001
Poor mental health	512	11.7	55	15.8	0.123	611	17.7	106	30.1	<0.001

[a] Sums give 100 % not equal n due data treated as missing value. Sample weights were calculated

[b] High is university studies, Medium is secondary school, Low is basic education or non-schooling

95 % CI 1.77, 3.93) and poor mental health (OR 2.02 95 % CI 1.39, 2.93) than native women. After adjusting for age, occupational social class and low job satisfaction (Model 8), the probability that immigrant women have poor self-perceived health (OR 1.98 95 % CI 1.28, 3.06) and suffer from poor mental health (OR 1.82 95 % CI 1.22, 2.70) was higher than for native women. No statistical differences were found for men. The most influential factor in the relationship between health and migrant status for women workers was occupational social class (25.0 % for poor self-perceived health and 17.6 % for mental health). Among occupational conditions, job satisfaction accounted for 15.8 % of the difference in self-perceived health. Both together have the highest Explanatory Fraction.

Discussion

This study analyzes the impact of social characteristics and occupational conditions on self-perceived and mental health by sex among native and settled immigrant workers in Spain. The results show that (1) being an immigrant and

Table 2 Likelihood of poor self-perceived health and poor mental health for settled immigrants workers in Spain and explained fractions of each indicator, SNHS 2011

	Poor self-perceived health[a]		Poor mental health[a]	
	Men	Women	Men	Women
Natives	1	1	1	1
Model 1: ORa (95 % CI)				
Age adjusted	1.33 (0.85–2.08)	2.64 (1.77–3.93)	1.43 (0.92–2.24)	2.02 (1.39–2.93)
Model 2–8: ORb (95 %CI)				
Model 2: model 1 + educational level	1.31 (0.83–2.04)	2.33 (1.58–3.45)	1.42 (0.91–2.23)	1.93 (1.31–2.83)
Model 3: model 1 + occupational social class	1.19 (0.76–1.87)	2.23 (1.47–3.38)	1.41 (0.90–2.20)	1.84 (1.25–2.71)
Model 4: model 1 + high job strain	1.39 (0.89–2.18)	2.49 (1.64–3.78)	1.51 (0.95–2.39)	2.02 (1.37–2.96)
Model 5: model 1 + low job satisfaction	1.34 (0.86–2.10)	2.38 (1.56–3.62)	1.43 (0.91–2.25)	1.95 (1.33–2.87)
Model 6: model 1 + exposed physical demands	1.30 (0.83–2.03)	2.59 (1.73–3.89)	1.44 (0.92–2.25)	2.05 (1.40–3.00)
Model 7: model 1 + working arrangements	1.40 (0.89–2.21)	2.53 (1.68–3.82)	1.47 (0.93–2.32)	2.12 (1.44–3.12)
Model 8: model 5 + occupational social class	1.17 (0,74–1,84)	1.98 (1.28–3.06)	1.42 (0.90–2.23)	1.82 (1.22–2.70)
Explained fractions				
Educational level	NA	18.9 %	NA	8.8 %
Occupational social class	NA	25.0 %	NA	17.6 %
High job strain	NA	9.1 %	NA	0.0 %
Low job satisfaction	NA	15.8 %	NA	6.8 %
Exposed physical demands	NA	3.0 %	NA	(−)2.9 %
Low job satisfaction + occup. social class	NA	40.2 %	NA	19.6 %
All variables	NA	26.2 %	NA	9.8 %

95 %CI 95 % confidence interval, *OR* odds ratio

[a] All regression models adjusted for sample weights

working woman is associated with worse self-perceived and mental health, while no differences were found between males and, (2) occupational social class was the largest contributing factor in this association between health and migrant status.

Previous studies have shown that immigrant women in Spain had poorer mental and self-perceived health. In men this was true only for those belonging to certain nationalities [7, 8]. This could be explained by the fact that women and men migrate for different reasons, with the latter migrating more for employment reasons. Men might therefore be more likely to demonstrate a "healthy immigrant effect" [8]. Our study included only settled immigrants and employed immigrants, and we found the same association of poor health, however this was only the case for women. A Swedish study showed that working immigrants reported worse health than natives [2]. When separated by sex, our results show worse health status only among women immigrants in Spain. It has also been noted that gender inequalities within society may be greater in immigrants' countries of origin, and immigrant women may be constrained to a particularly disadvantaged role in the household. Moreover, immigrant women suffer from additional disadvantage based on gender, social class and immigrant status [9]. Finally, employed immigrant women may disproportionally suffer the double burden of having to carry out both paid and domestic work.

Also, our results could be explained by the fact that some activity branches are highly feminized and differentiated by migratory status, for example, the case of household services. In 2010, of all immigrant working women, 34.9 % were working in domestic services, and of the total native working female population, only 3.4 % were working in the same sector [10]. Their work may include tasks such as cleaning the house, cooking, washing and ironing clothes, taking care of children, or elderly or sick members of a family, gardening, guarding the house, driving for the family, and even taking care of household pets, paraphrasing International Labour Organization.

In this study, after comparing immigrant women with Spanish nationality to native women, we found no association with poor mental and self-perceived health. Being a female immigrant worker with no Spanish nationality is related to worse health. Legal status explains part of the association with worse health [11].

As expected, occupational social class and educational level explained a high proportion of the association between health and migrant status. This may be due to fact

that both are structural determinants of health. Regarding occupational conditions, there was relatively little weight in the association with health and migrant status. These findings are similar to those of Dunlavy et al. [2] even using different job exposure type to measure adverse working conditions.

Limitations

Despite the contributions of the study, the transversal design means that casual factors are undetermined, and therefore a longitudinal study should be carried out. We should interpret these results with caution because: (a) we can not infer that improving working and employment conditions of immigrant women will lead to health improvements, and (b) it is possible that negative working conditions require a longer period of time than we have considered to impact health.

Information about the legal status of immigrants, for example the possession of a work permit, was not available in this database.

Conclusions

Migrant status is related to health inequalities among workers but only for women. Settled working immigrant women in Spain face important health inequalities related to self-perceived health and mental health. Good general health is often necessary to retain jobs, and it is vital in the successful management of life. Immigrant women in Spain are a vulnerable group and are possibly unprotected on questions of working rights. Other occupational and working life factors should be studied further.

Conflict of interest The authors declare no conflict of interest.

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