

Hospital admission profiles of spanish immigrants in Paris. Assistance-publique hôpitaux de Paris. France.

Profil d'admissions hospitalières de la population espagnole immigrée à Paris. Assistance-Publique Hôpitaux de Paris. France.

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The aim of this study was to try to determine the hospital admission profiles of Spanish immigrants in France and whether differences exist between the admission patterns in this population and the autochthonous French population. The study was carried out between 1984 and 1985 in all the hospitals of the « Assistance Publique-Hôpitaux de Paris ». In-patients were codified by using the OTARIE system (Organisation du Traitement Automatisé de Recherche Intéressant l'Epidémiologie) based on the I.C.D. 9R. (International Classification of Diseases). Observation of the proportional morbidity rates and the standardized rates showed differences between the two populations for tuberculosis, congenital pathology, poisoning and symptoms (multi-etiological processes, poorly defined conditions and symptoms «per se»). The Spanish sample showed a greater diagnosis for tuberculosis and symptoms (psychiatric and neurological) than the French population. However, poisoning and congenital pathologies were more frequent in the latter.

Spanish migrants. Morbidity. In-patients. Immigration. Comparison. French patients.

Le but de cette étude est d'étudier le profil d'admission hospitalières de la population espagnole immigrée en France et de la comparer avec le profil d'admission de la population française. L'étude a été effectuée pour les années 1984 et 1985, à partir des informations recueillies dans tous les hôpitaux de l'Assistance Publique-Hôpitaux de Paris. Nous avons utilisé le système OTARIE (Organisation du Traitement Automatisé des Renseignements Intéressants l'Epidémiologie) pour la codification des maladies. Ce système est basé sur la CIM 9R (Classification International des Maladies). Les taux de morbidité proportionnel et standardisés montrent des différences parmi les deux populations dans la tuberculose, anomalies congénitales, intoxications et symptômes (processus multiétiologiques, états mal définis et symptômes «per se»). La tuberculose et les symptômes (neurologiques et psychiatriques) sont les diagnostics plus fréquents dans la population espagnole, tandis que les intoxications et les anomalies congénitales semblent être plus nombreuses dans la population française.

Immigration. Population espagnole. Morbidité hospitalière. Comparaison. Malades françaises.

INTRODUCTION

The migration is often associated with considerable changes in social, cultural, economic and physical status [1]. Consequently, migration increases the risk of susceptibility to disease.

Several studies deal with this particular aspect of migration. Studies carried out in France and other countries have shown that immigrant women have a higher risk of perinatal mortality and morbidity than native women [2].

A higher rate of foetal or neonatal distress among immigrant women as compared with French women has also been reported [3]. Prematurity is often more frequent among immigrants [4, 5]. Many studies have revealed that rates of psychiatric disorders in immigrants are higher than those for the native-born [6, 7]. There is considerable evidence suggesting that the risk of suicide may be increased in immigrants [8, 10], suicide being one manifestation of the failure to cope with stressful life events.

Other diseases such as tuberculosis have also been reported to be more frequent among immigrants than in native-born populations [11, 12]. Some evidence suggests that accidents at work are more frequent in immigrant workers [13].

It is important to note that the disease patterns of immigrants are influenced by the environments of both the original and the host countries and by the process of migration. For these reasons, from a conceptual point of view, some authors suggest the existence of two groups of illnesses among immigrants: those imported from the country of origin and those acquired in the new country [12].

After the Spanish Civil War (1936-1939), which gave rise to a considerable flow of political refugees from Spain into France, the numbers of Spanish immigrants increased steadily until 1962.

After this date, however, when the Spanish immigrant population was the second biggest foreign population in France the numbers have been falling. In 1982, on the 4 million foreigners appearing in the census in France, 321,000 were Spanish and of these 90% had been living there at least 10 years. For this

reason, the Spanish population is possibly more highly integrated in France than other groups of more recent immigrants.

In 1985 Spain became a full member of the European Community and this circumstance may well have been a modifying factor in the status of the Spanish worker in EC countries and particularly in neighbouring France, an habitual receiver of Spanish workers.

Taking into account the above, we have considered it of interest to investigate the state of health of the Spanish immigrant population in France in 1984 and 1985, two years which were of great importance for Spain within the context of the European Community. At the same time a comparison of the Spanish morbidity with that of the autochthonous population has been carried out.

METHODS

Population: The two samples studies were firstly, all Spanish immigrants admitted to any of the public hospitals of the « Assistance Publique-Hopitaux de Paris » during the two year period of 1984-85 and secondly, all patients of French nationality who were, like the above, admitted to the same hospitals during the same period of time.

Data Collection: Data was obtained from the Otarié [14] file which collects information from 50 hospitals. This data includes the patients' sex, place and date of birth, place of residence and nationality. Other information referring to the patients' hospitalization such as the name of the hospital, the unit to which admission was made and the administrative department under whose responsibility admission fell was also processed. The duration of hospitalization, the manner of discharge and the diagnosis on discharge were also included. The disorder which required most care during hospitalization was codified as the diagnosis on discharge using the ICD 9R of the WHO (World Health Organization). The access to the data was obtained via the computerized (INFOCENTRE) system, which also enabled the revision and checking of the same.

TABULATION OF DATA

The tabulation of the data was carried out using a double-sided grid designed in the Epidemiological service of the « Assistance Publique-Hôpitaux de Paris » [14] (Table 1). In this grid the 1000 sections of the ICD 9R were classified on to two axes of 15 groups. The first referred to the etiological cause and the second to the topography of the illness. Consequently the cases included in each etiological group were distributed according to their topography. From this, double-sided table propor-

TABLE I. — Diagnostic codes for pathologies investigated according to aetiology and localisation. — Codes diagnostics des pathologies étudiées d'accord leur étiologie et localisation.

	TBC a	INFLAM b	POISON c	CONG DIS d	SYMPT e	OTHER f
Osteo-articular	015	712, 716, 726-28		754-756	719, 723, 724, 729	399
Skin		690-98				
Cardio-vascular		420-22		745-47	423, 424, 428, 429, 447, 457, 459	
Respiratory	10-12	490-91			514, 518, 519	
Digestive	14	535, 555		750-51	530, 536-37, 558, 563-64, 568-69, 572-73, 575-78	
Haematic				282	289	
Endocrine		245		243	259	
Urogenital	16	580-83		753	584-89	
Gynaeco-obstetric					611, 619-27, 629, 631, 644, 648	069, 089
Nervous-system	13	323	338	330, 333-35, 356, 359, 740-42	331, 336-37, 341, 344, 348-55, 357	
Odontology				749	520-29	
Ear-nose-throat		472, 474, 476-77			380, 384-86, 388, 478	
Ophthalmic		370, 373		743	360, 362-64, 368, 371-72, 374-77, 379	
Psychiatrie			303-04		294, 297-99, 307, 310-12, 316	327

a: tuberculosis; b: inflammations; c: poisonings; d: congenital diseases; e: symptoms; f: others.

tional morbidity rates along with the relative frequency percentages for age and sex groups, together with the distribution of cases according to localization of apparatus or system were calculated for each of the pathologies or groups of pathologies considered.

Indirect standardization was used as an epidemiological method of comparison, the chi square and Fisher tests were used as statistical methods.

RESULTS

All patients admitted to the various centres of the «Assistance Publique Hôpitaux de Paris» during 1984 and 1985 were included. In 1984 there were 615,250 admissions and in 1985, 657,966. Of these, in 1984, 513,793 (83.5 %) were of French nationality and

555,815 (84.47 %) in 1985. The proportion of Spanish immigrants was 0.72 % (4,420) in 1984 and this remained practically the same for 1985 (0.71 %, 4,664).

Malignant tumours and traumatism were found to be the most frequently seen pathologies for both groups in both years. The increase in the frequency of malignant tumours in the French as well as in the Spanish sample for the years 1984-1985, is noteworthy; likewise, the increase in traumatism from the one year to the next. The proportion of tuberculosis cases was different in the two populations for both years of the study. Other pathologies such as congenital diseases, poisonings and symp-

TABLE II. — *Proportional hospital morbidity rates for both populations of study samples. — Taux proportionnel de morbidité hospitalière pour les deux populations étudiées.*

Pathology Groups	1984			1985		
	French %	Spanish %	p	French %	Spanish %	p
Tuberculosis	0.27	0.52	0.01	0.28	0.62	0.001
Infectious Diseases	1.58	1.45	N.S	1.34	0.92	0.05
Localized Infections	3.50	3.78	N.S	3.25	3.71	N.S
Inflammations	2.15	3.01	0.001	2.10	2.19	N.S
Malignant Tumours	9.01	9.98	0.05	10.24	10.40	N.S
Benign Tumours	1.82	2.23	0.05	1.78	1.95	N.S
Other Tumours	0.68	0.88	N.S	0.66	0.75	N.S
Traumatisms	6.45	6.62	N.S	5.94	5.64	N.S
Poisonings	3.27	2.28	0.001	3.21	2.16	0.001
Congenital Diseases	2.56	1.95	0.05	2.35	1.31	0.001
Perinatal Pathology	0.89	0.14	0.001	0.82	0.09	0.001
Iatrogenic Illnesses	0.39	0.41	N.S	0.35	0.49	N.S
Other Illnesses	35.17	35.90	N.S	35.47	35.42	N.S
Symptoms	12.92	14.25	0.01	12.33	13.96	0.001
Others	19.34	16.56	0.001	19.88	20.39	N.S
Total	100			100		

TABLE III. — *Observed and expected cases after indirect standardization. — Nombres observés et attendus après standardisation indirecte.*

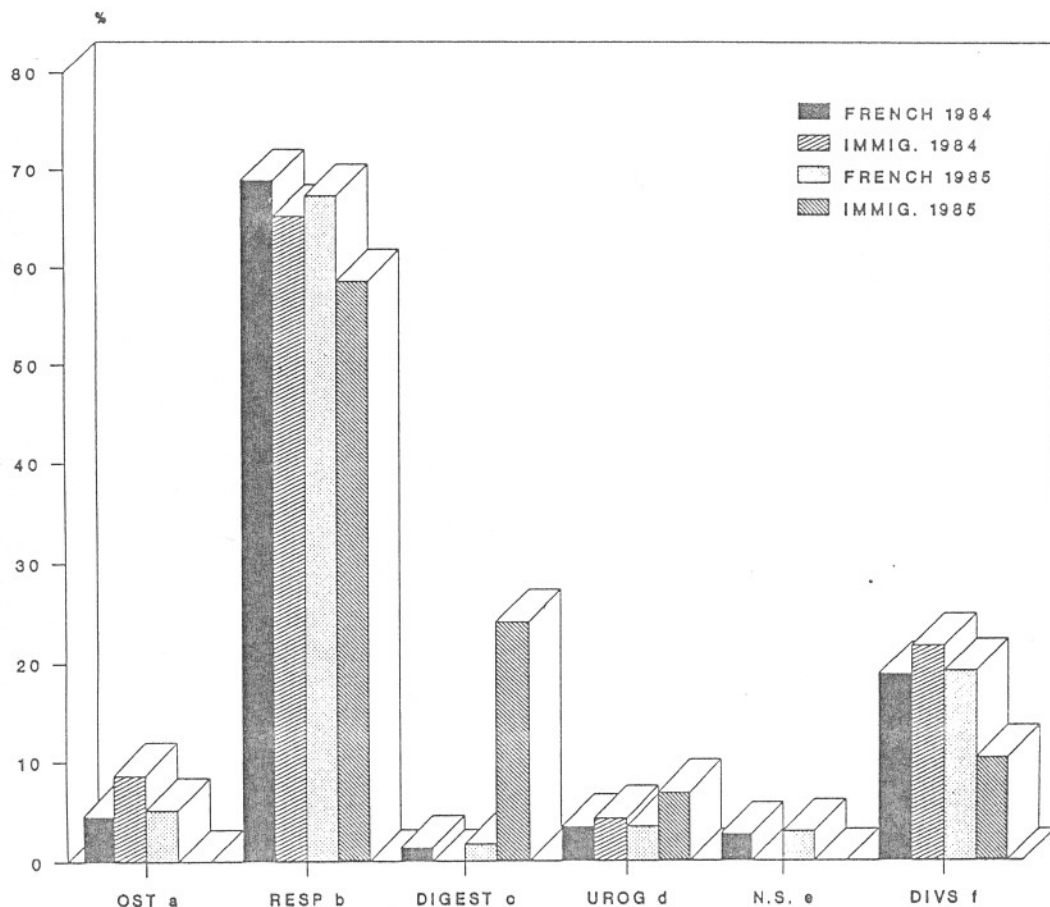
		1984				1985			
		O. ^a	E. ^b	p	SMR ^c	O. ^a	E. ^b	p	SMR ^c
Tuberculosis	Male	17	6	0.05	2.83	22	6	0.01	3.67
	Female	6	5	N.S	1.20	7	3	N.S	2.33
Poisonings	Male	50	66	N.S	0.76	48	71	0.05	0.68
	Female	51	73	0.05	0.70	53	70	N.S	0.76
Congenital Diseases	Male	60	50	N.S	1.20	39	51	N.S	0.76
	Female	26	44	0.05	0.60	22	37	0.05	0.59
Nervous System Symptoms	Male	17	25	N.S	0.68	15	21	N.S	0.71
	Female	26	17	N.S	1.53	14	17	N.S	0.82
Psychiatric Symptoms	Male	6	17	0.05	0.35	57	17	0.001	3.35
	Female	26	36	N.S	0.72	18	31	N.S	0.58

a: observed; b: expected; c: standardized morbidity ratio

toms also showed differences in both 1984 and 1985 (Table II). These pathologies were later considered for analysis.

The proportional morbidity rates for tuberculosis were low both in the French population and in the Spanish immigrant population. However, they were significantly higher ($p < 0.01$

and $p < 0.001$) in the Spanish sample both years. This difference was maintained when indirect standardization was applied, with males showing the greatest differences (Table III) and with the lung being the most frequent localization (fig. 1). The distribution of cases according to age groups was quite similar in both populations (fig. 2).



a: osteo-articular (os-articulations-muscles); b: respiratory (respiratoire); c: digestive (digestif); d: urogenital (urogenital); e: nervous system (système nerveux); f: divers (miscellaneous).

FIG. 1. — Topographic distribution of tuberculosis for both groups of study. — Distribution topographique de tuberculose dans les populations de l'étude.

The proportional morbidity rates for poisoning and congenital diseases were higher in the French sample in the two years studied. The difference found in poisoning was only maintained after standardization in males in 1984 and in females in 1985 (*Table III*). Analysis by age groups showed that poisonings were statistically more frequent in French males aged 35-44 years. No differences were found between the two samples in the diagnosis of acute or chronic poisoning.

With regard to congenital disease the diffe-

rences obtained from the crude figures were maintained after standardization only in the female population (*Table III*). No important differences were observed for age groups. The most important localizations for the groups of illnesses were in the osteo-articular and the cardio-vascular systems, and those of the nervous system, with the latter being more frequent in 1985 in the Spanish sample than in the French (*fig. 3*).

Another of the groups studied was that of the «symptoms» group which accounts for multi-etiological processes, symptoms *per se*

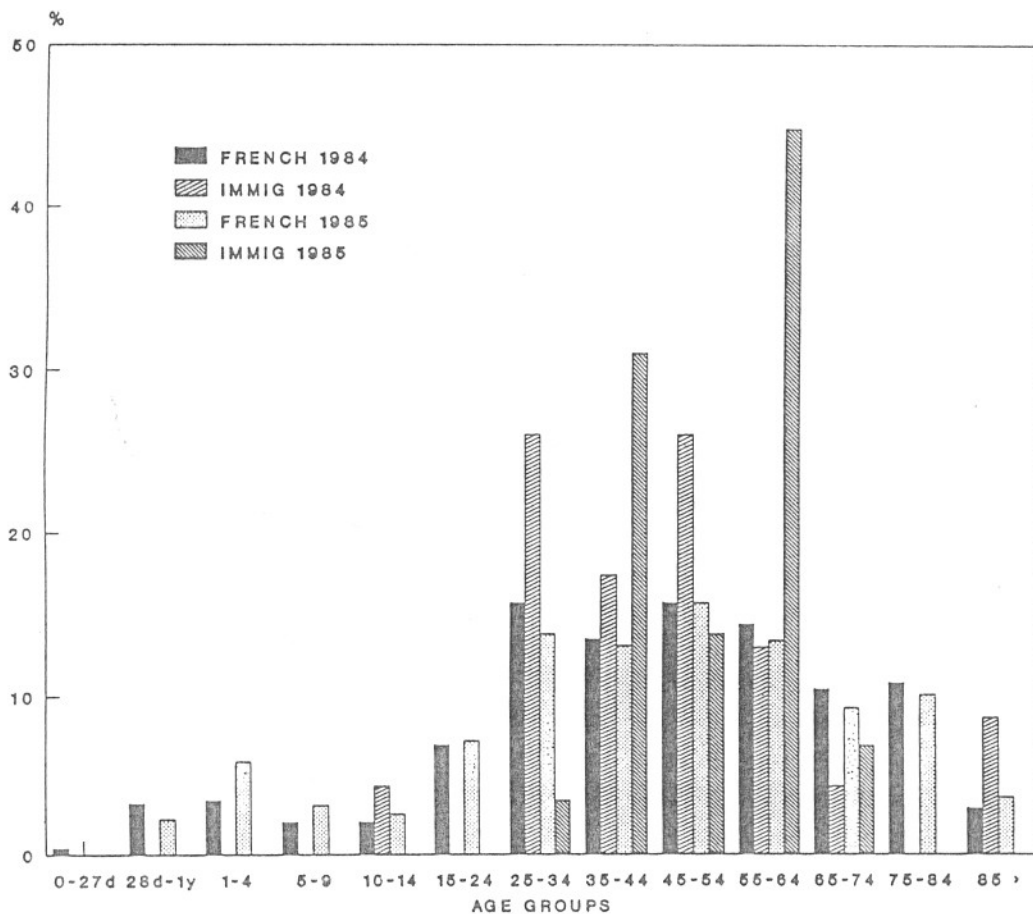
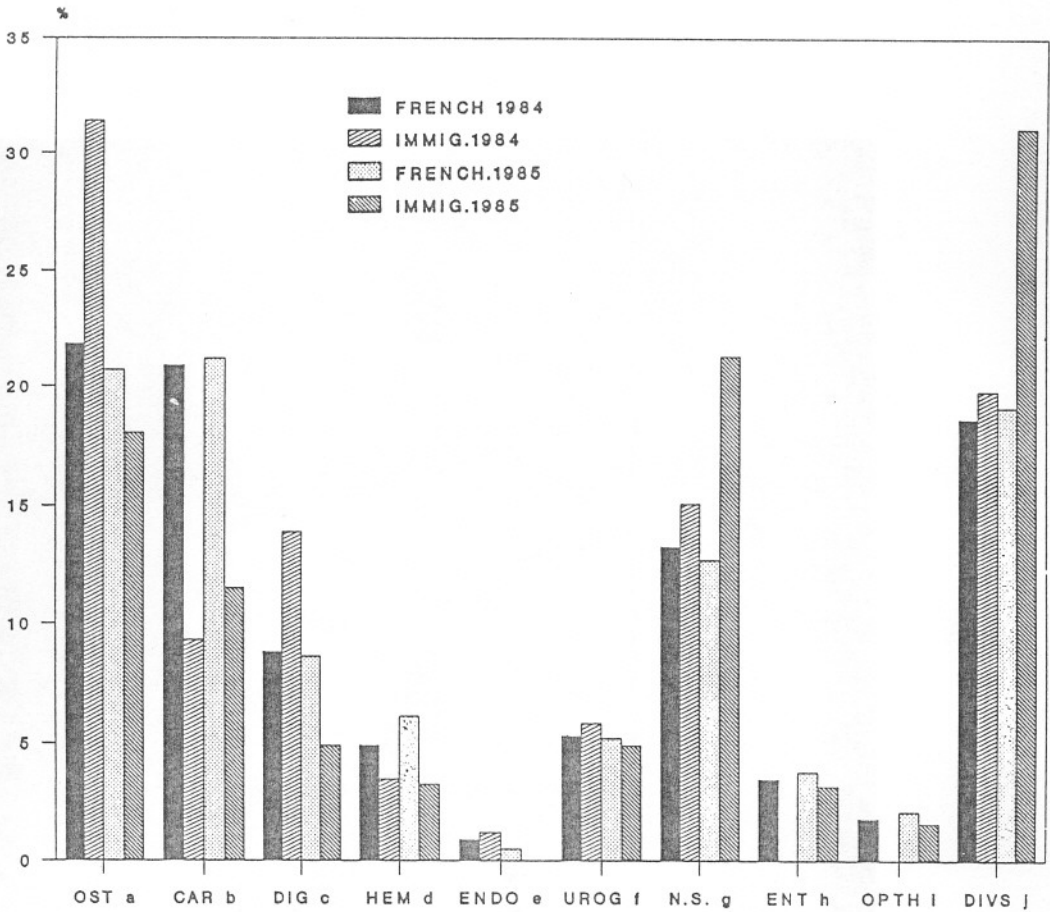


Fig. 2. — Distribution of cases of tuberculosis according to age for both groups of study. — Distribution des cases de tuberculose par tranche d'âge dans les deux populations de l'étude.

and poorly-defined disorders. the Spanish sample showed a higher frequency of these processes both in the crude figures and after standardization. The most frequently diagnosed disorders for both samples and with no differences between them were those of the digestive tract and of the cardio-vascular system (*fig. 4*). However, neurological and psychiatric symptoms showed a statistically significant difference. Psychiatric symptomatology experienced a change from 1984 to 1985 and in the latter year became more frequent in the Spanish sample (11.53 % vs 8.91 % $p < 0.05$). Standardization showed a prevalence of these symptoms

in the Spanish male immigrant population (*Table III*). Although the proportional rates of morbidity for symptoms of the nervous system (peripheral neuropathy, hemiplegia, paraplegia and Pick's and Alzheimer's diseases) were higher in the French sample for both years of the study (9.20 % compared with 6.82 % in 1984 and 6.80 % compared with 4.45 % in 1985), after standardization the only group which showed a difference and where these pathologies were more frequent was that of Spanish females ages from 65-74 years. Twelve out of thirteen women in this group were diagnosed as suffering from Alzheimer's disease.



a: osteo-articular (os-articulations-muscles); b: cardiovasculaire (cœur-vasseaux); c: digestive (digestif); d: haématique (sang-ganglions-rate); e: endocrinienne (endocrino-métabolisme); f: urogénitale (urogénérale); g: système nerveux; h: nez-gorge-oreilles; i: ophtalmique (œil et annexes); j: divers (miscellaneous).

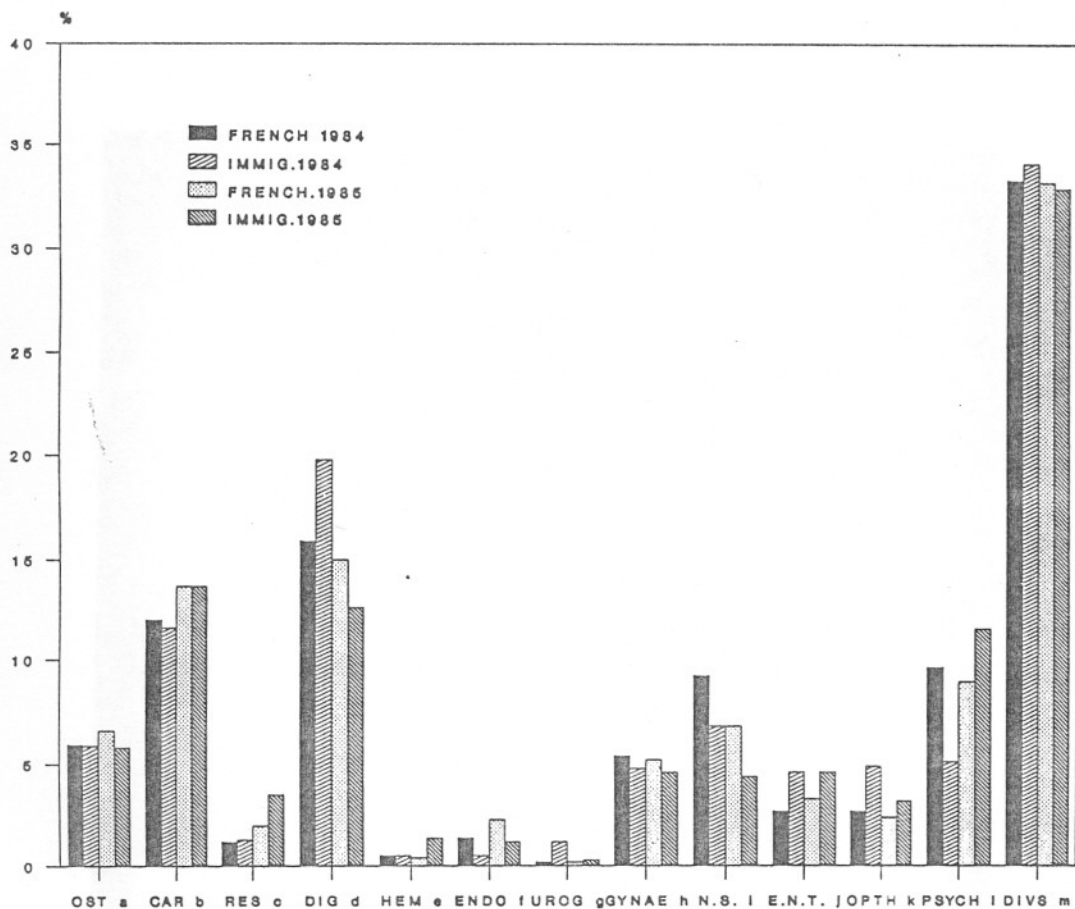
FIG. 3. — Topographic distribution of congenital diseases for both groups of study. — Distribution topographique des anomalies congénitales dans les deux populations de l'étude.

DISCUSSION

The authors' aim was to study hospital profiles in the Spanish immigrant population and compare it with those of the French, as those illnesses which require hospitalization are usually considered as being of greater interest principally from an economic and social standpoint. The most important difference between the two samples was found to be in the presence of tuberculosis. However, as this study was limited to the use of data from the different hospitals of the « Assistance Publique »,

the results cannot be directly extended to the general population.

The fact that the data are derived from the public health system and not from private hospitals could result in an under-representation of both French and Spanish higher-class patients. However, the high proportion of French people who use these centres, owing to the quality of treatment and the technology available, as well as the high costs associated with the private sector mean that the selection bias was not considered important.



a: osteo-articular (os-articulations-muscles); b: cardiovascular (cœur-vaisseaux); c: respiratory (respiratoire); d: digestive (digestif); e: haematic (sang-ganglions-rate); f: endocrine (endocrino-métabolisme); g: urogenital (urogenital); h: gynaeo-obstetric (gynéco-obstétrique); i: nervous system (système nerveux); j: ear-nose-throat (nez-gorge-oreilles); k: ophthalmic (œil et annexes); l: psychiatrie (psychisme); m: divers (miscellaneous).

FIG. 4. — Topographic distribution of symptoms for both groups of study. — Distribution topographique des symptômes dans les deux populations de l'étude.

The socio-cultural characteristics of the patients were not studied directly. However the information provided by the Labour Attaché of the Spanish Embassy in Paris reveals a progressive adaptation of the Spanish population to French society [15].

The length of residence in the host country has not been taken into account in this study. This may well be important when the patterns of morbidity are evaluated as these may be altered as a result of adaptation by the immi-

grant to his/her environment [16]. McGovern and Cope [17] however, reported a greater psychiatric morbidity in the second generation of Afro-Caribbean immigrants in England. This may be explained by the difference in behaviour of psychiatric pathologies with regard to the «duration of residence» factor.

Malignant tumours and traumatism were shown to be the cause of the greatest number of admissions in both the French and Spanish samples. Various studies have shown similar

results [11] but others [16] have found a lower incidence of tumoral pathology (pulmonary and intestinal) in the immigrant population compared to that of the autochthonous population.

Other studies [13, 18, 19] also found a higher occurrence of traumatism in the immigrant populations. The cause of this may be a greater exposure to risk at work on the part of immigrants. However, a high level of traumatic morbidity has been found for both the Spanish and the French samples in our study; that these levels are similar could perhaps be related to the fact that Spanish migrants may leave jobs with a higher risk factor to more recently arrived immigrants.

As mentioned earlier, the results show differences between the two populations in some pathological groups such as tuberculosis. Although tuberculosis accounted for less than 1% of the total number of hospital admissions both in the French and Spanish populations the frequency in the Spanish group is double that of the French (0.52% vs 0.27% in 1984 and 0.62% vs 0.28% in 1985). Males were more highly affected by the illness and especially in the respiratory localization. These results are similar to those observed by other authors [20-22]. Gentilini and Duflos [12] have defined this illness as an «acquired pathology» in the new environment, where unskilled work, a poor diet and a worse quality of life may set off a silent process, only manifesting itself after a period of time in the host country. Moreover, it is possible that the diagnosis of tuberculosis may be made earlier in Spanish patients than in French patients on a suspicion bias.

With regards to congenital diseases Tursz *and col.* [23], in a study carried out in the «Assistance Publique» in Paris, observed similar results to those of our own. They stated an under-representation in their results of benign pathologies in French children could be explained by the fact that these are taken with more frequency to General Practitioners instead of to hospitals than foreign children are.

In the «symptoms» group differences were also detected between the two populations in true symptoms (dyspepsia, diarrhoeas, etc.) as well as in poorly-defined states (enuresis,

autism) and even in certain diseases such as Alzheimer's. Other authors also found differences in these non-specific pathological groupings. Bennegadi [24] explains this phenomenon by the description of socio-cultural factors which produce different symptoms with somatization in diverse localizations. In this study, the psychiatric localization of these symptoms was found to be more frequent in the Spanish population than in the French only in 1985. The variability of the results from year to year (1984 to 1985) is probably due to the fact that they are based on very small numbers in the case of Spanish immigrants.

There are numerous studies [25-28] where a higher incidence of well-defined psychiatric disorders such as suicide attempts, schizophrenia, neurosis and depression is reflected in the immigrant populations of diverse origins. However, studies on psychiatric symptoms are not frequent.

No differences between the two population groups in the frequency of specific well-defined psychiatric conditions were found in this study. This is in line with Halldin [29] who found no differences in the prevalence of psychiatric disorders between native-born and foreign-born populations, but who did find a higher frequency of severe psychiatric conditions in the autochthonous population. He concludes that the fact that only one significant difference was found between foreign-born and Swedish-born populations may be attributable to the treatment of the foreign-born as a single group.

In the present study, however, a greater number of psychiatric disorders including enuresis, encopresis, autism, paranoid states and non-classified depressive states, were observed in the immigrant Spanish population. This could be interpreted as a manifestation of the lack of adjustment of the individual, conditioned by both professional and social insecurity.

In conclusion, it may be stated that bearing in mind the length of residence of Spanish immigrants in France a similar rate of morbidity to that of the French population could be expected [21]. However, certain differences do exist in their respective hospital morbidity profiles. These differences are most appreciable in illnesses such as tuberculosis, and in symp-

toms of mental illness where it is well-known that psycho-social elements play an important role.

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