The demand for information on the number, characteristics and situation of people suffering from mental, physical and sensory limitations has been strongly felt in Spain in recent years, both socially and in the institutions whose responsibility lies in these areas.

Realizing the need to try to quantify a phenomenon whose true dimensions were unknown, the Spanish National Institute of Statistics (INE) included a question on the subject in its census surveys in 1950, 1960 and 1981. However, a summary analysis of the results shows clearly that the figures obtained from the self-classification procedure which must be followed in a census substantially underestimate the severity of the situation.

It was therefore felt that a sample survey carried out by interviewers would permit greater conceptual precision and uniform treatment of the total population in accordance with the relevant methodological definitions retained.

Objectives
The objectives which the survey of disabilities, impairments and handicaps carried out in Spain in 1986 attempted to address were as follows:

- To obtain an estimate of the total number of people with some form of disability, this being understood as a serious limitation permanently affecting their activity and originating from an impairment, and to define the nature of these disabilities.
- To identify the different types of impairments which give rise to these disabilities.
- To start developing an approach for identifying the causes which have given rise to these impairments.
- To estimate the number of people who, as a result of an impairment, have some form of handicap, and to analyse the nature of these handicaps.

The major difficulty in meeting these objectives was the considerable confusion in terminology and concepts both at the national and at the international level. An adequate frame of reference was needed to put into perspective such terms as deficient, subnormal, diminished, handicapped, etc., which are often used as synonyms, so as to establish an order of causality between the consequences which may be produced by disease, as defined in its broadest sense, i.e. including accidents and congenital abnormalities.

The WHO Classification
The framework mentioned above was provided by the International Classification of Impairments, Disabilities, and Handicaps (ICIDH) developed by WHO and published in 1980 in English (1). This classification was translated into Spanish by the National Institute of Social Services (INSERSO) and published in 1983 (2).

Leaving aside the fact that the original classification, as well as the terminology used in Spanish, may be subject to discussion and improvement, as in any endeavour of an experimental nature, this translation effort has obviously helped to clarify the situation in two respects.

In the first place, the consequences of diseases are structured for the first time. Secondly, the classification distinguishes between the three levels at which these consequences are observed: impairment (loss or abnormality of an organ or of the intrinsic function of that organ); disability (restriction or lack—resulting from an impairment—of ability to perform an activity in the manner or within the range considered normal, and thus the consequence which the disease produces at the level of the person); and handicap (disadvantage which results for the individual from an impairment or disability, and which limits or prevents the fulfillment of a role that is normal in terms of age, sex, and sociocultural factors).

Adaptation of the Classification
The final impetus for this survey was thus provided by the availability of definitions of impairment, disability and handicap, and the possibility of ordering these constituents of the consequences of disease in a sequence of causation, although this did not solve all the problems.

Although the method used for the survey followed as closely as possible the guidelines proposed by WHO for the definition, content and classification of these three levels, some modifications were necessary to ensure that the survey would be feasible, comprehensive in scope and fully understood.

On the one hand, the broad scope and complexity of this classification meant that it was impossible to obtain data on each and every item contained therein. It was necessary to simplify the classification even at the cost of limiting content.

At the same time, the definitions of the content of each item had to be adapted to language which would be fully understood by the respondents of all cultural levels who would ultimately be replying to the questions.


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A number of decisions were taken to this end. The first was to begin the survey with disabilities rather than with impairments, although impairments are the most immediate consequence of disease. In practice, although a person may have innumerable impairments, not all of them are of sufficient seriousness or duration to give rise to disability and hence they were not all of equal interest for the survey. Questions on impairments are also very difficult to answer, since the information is elicited from families by an interviewer and not by a medical team which would be able to carry out standardized diagnostic tests; both the type and degree of impairment reported might therefore be incorrect.

The starting point chosen for the survey was therefore disability, which made for greater increased objectivity in the replies given but limited the scope of the study.

Disabilities

Although the definition of the term “disability” cited above in the objectives of the survey is essentially the same as that of the ICIDH, certain limitations were imposed for the purposes of this study.

In the first place, only serious disabilities were included, i.e. those which severely limit the activity of the individual affected. In establishing which disabilities are or are not serious, we attempted to reflect the views of Spanish society as to what does or does not constitute a serious activity restriction, so that it is disabilities as perceived by the Spanish population that have been quantified.

Obviously, the number of activities a person is able to carry out is very large; so, consequently, is the number of potential disabilities. It was therefore necessary to reduce this number to those disabilities which are potentially common to all and which represent all potential human skills and behaviour. The major groups of disabilities retained are listed in Box 1.

1. Disabilities in seeing
2. Disabilities in hearing
3. Disabilities in speaking
4. Other communication disabilities
5. Disabilities in personal care
6. Disabilities in walking
7. Disabilities in climbing stairs
8. Disabilities in running
9. Disabilities in going out of the house
10. Disabilities in activities of daily living
11. Disabilities in dependence and resistance
12. Environmental disabilities
13. Behavioural disabilities in relation to oneself
14. Behavioural disabilities in relation to others

Some of these groups were subdivided in terms of their seriousness, giving a total of 28 categories of disabilities.

Only those disabilities which permanently affect the activity of the individual were retained. A disability was deemed permanent when its very nature implied limitations, such as those which result from mental retardation. When permanence was not evident, a time limit was set and a disability was considered permanent when the time for which it had been suffered plus the time it was expected to last were equal to at least one year. This excluded, for example, people with a walking disability as a result of a fracture which could be corrected by immobilization of the leg for a short period.

Following the pattern of ICIDH, only disabilities originating in an impairment were investigated (Box 2). Exceptions were nevertheless made for certain disabilities which do not arise out of clearly definable impairments but which result from degenerative processes in which the age of the individual is a decisive factor, i.e. those which are due to senility. This was decided because it was felt that this information might be of considerable sociocultural interest for the purposes of comparison, either with other countries or retrospectively in our own country. It might, for example, be possible to see whether the number of over-65s with a given disability declines over time or remains at the same level.

Disabilities were investigated even when they could be corrected with some external device, mechanism or prosthesis, or with the help of another person. The only exception was that of seeing disability; in this case, only those disabilities which subsist with spectacles or contact lenses were included.

Of the population investigated (38 341 130), 15% presented a disability. Disability prevalence increased rapidly above the age of 44 (Fig. 1). Above this age, disability prevalence is also higher among women than among men, the difference reaching 5-10 percentage points at age 65 and above.

Together with the higher proportion of women in the higher age groups, this gives an overall crude rate of disability among women higher than that among men (16.5% vs.13.3%). This difference persists even when the rates are standardized for age (15.7%, 14.8% respectively). A preliminary analysis tends to indicate that disability prevalence is higher among the lower socioeconomic strata, and among persons with limited formal education, a distribution pattern also observed in other countries (3).

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**Box 1. Major groups of disabilities included in the survey of disabilities, impairments and handicaps, Spain, 1986**

<table>
<thead>
<tr>
<th>Disability Category</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeing</td>
<td>2.4</td>
</tr>
<tr>
<td>Hearing</td>
<td>2.6</td>
</tr>
<tr>
<td>Speaking</td>
<td>0.5</td>
</tr>
<tr>
<td>Personal care</td>
<td>0.6</td>
</tr>
<tr>
<td>Walking</td>
<td>1.1</td>
</tr>
<tr>
<td>Climbing stairs</td>
<td>10.5</td>
</tr>
<tr>
<td>Running</td>
<td>10.5</td>
</tr>
<tr>
<td>Going out of the home</td>
<td>2.1</td>
</tr>
<tr>
<td>Activities of daily living</td>
<td>2.3</td>
</tr>
<tr>
<td>Dependence and resistance</td>
<td>3.5</td>
</tr>
<tr>
<td>Environmental</td>
<td>0.7</td>
</tr>
<tr>
<td>Behavioural (self)</td>
<td>1.0</td>
</tr>
<tr>
<td>Behavioural (others)</td>
<td>0.8</td>
</tr>
</tbody>
</table>

* Significantly higher in females.
* Significantly higher in males.
Impairments

The ability or inability to perform a particular activity is easily recognized by subjects in a survey, making disabilities relatively easy to identify. This is not the case for the definition of impairment offered by WHO, which does not make for easy identification of impairments. Often in practice, the manifestations, signs or symptoms of disease in an organ or the function of an organ cannot be detected by the person affected, but need to be diagnosed professionally. Moreover some patients may not have been told the truth about their disease or they may fail to understand the real significance of the diagnosis.

These considerations and the objectives of the study led to the use of a method which diverges even further from the classifications and definitions of impairments established by WHO than was the case for disabilities and handicaps.

It was decided to impute each disability to one impairment only despite the fact that an impairment often entails more than one disability (Fig. 2). Much information may have been lost as a result of this simplification, but it was felt that the complications which might arise both in the gathering of data and in their interpretation outweighed any possible gains.

In the case of a disability that could have been produced by more than one impairment, it was decided to recognize the impairment which the disabled person (or his/her spokesman) considered to be the fundamental cause of the disability which had been recognized. If this was unknown, the most long-standing impairment was selected.

Bearing in mind that it might sometimes be difficult for the informant to know the real origin of his/her disability, the following guidelines were developed for interviewers.

1. When the disability was the result of a time-limited disease which had resolved or was no longer evolving but had left some sequelae, it was considered to be related to the organ, system or tract in which the sequelae had occurred. For example, a walking disability due to an episode of poliomyelitis from which the patient had recovered was considered as resulting from an impairment of the locomotor system; a hearing disability observed as a sequela of meningitis, from a hearing impairment.

2. When the disability was the result of a degenerative and progressive disease, i.e. a process which was not completed, but still evolving, the impairment considered was that of the relevant system, irrespective of the sequelae in any particular organ.
Thirty-two types of impairments were considered in the study; 31 of them were grouped under four major headings: mental, sensory, physical, mixed. A fifth category, "no impairment in particular", covered all those individuals who reported some disability which could not be linked to any one of the impairments included in the four major groups. This category would include, for instance, a running disability or the disability of being housebound in the case of some elderly people.

One of the greatest difficulties in dealing with impairments was that in some cases, as with sensory impairments (sight and hearing), the terminology of impairment was practically identical with that of the corresponding disabilities. The concepts are nevertheless distinct, since, for example, the disability of being "totally blind" may be due to the impairment of "total blindness" or to an "endocrine-metabolic" impairment. Similar examples could be quoted in the case of hearing.

Special training was given to the interviewers to help them deal with the difficulties outlined above. This was done with the help of a videocassette which explained all the concepts involved in the method and illustrated the best approach to adopt in the households interviewed.

An analysis of impairments and disabilities, carried out (separately for populations 6–64 and 65+) for the different administrative areas of the country, evidenced considerable differences between these areas; on the whole, middle-sized towns appear to have lower rates of disability and impairments than either the predominantly rural areas or the major towns.

**Handicaps**

Handicaps were considered in the light of the six survival roles described in the ICIDH: orientation, physical independence, mobility, occupation, social integration and economic self-sufficiency. The definitions used for these concepts were the same as those established by WHO.

However, in view of the fact that there is room for considerable subjectivity in replies to self-assessment questions on handicap, each type of handicap was described in detail in order to determine the significance of the results.
Some handicaps related to social integration and economic self-sufficiency are not accompanied by an incapacity and/or disablement: for example, people with an economic or financial handicap in the absence of a deficiency, and who live in marginal conditions. Such cases were not included in the study.

In the case of handicaps of orientation, physical independence or mobility, only those people unable to manage by themselves or with the help of some kind of appliance and needing the assistance of another person were taken into account.

The social integration handicap was limited to those who were unable to play their social role outside the family circle.

Formal application for some form of assistance was a prerequisite for recognition of an economic self-sufficiency handicap, so that it was not left solely to the discretion of interviewees to judge whether or not their situation enabled them to subsist independently. The mean number of handicaps per disabled person varies according to age, with a trough in the ages 45-60 and a maximum after age 70 (Fig. 3).

Other aspects of the survey

The use of the ICIDH in different age groups presented a further difficulty for the study.

Children with a recognized impairment may not yet show any sign of disability although its occurrence can be predicted with certainty. Moreover, it is impossible to determine whether an impairment of the locomotor system in an infant (under 1 year) will give rise to a walking disability.

Some impairments, such as different forms of mental retardation, are very difficult to detect in very young children. Similarly, some of the items listed in the ICIDH are concomitant with advanced age. For example, the investigation of running disabilities in the very old would be inappropriate and provide a rather misleading picture.

Consequently the survey was divided into three parts, one for each age group: children under 6, the population aged 6-64, and those over 65, for whom a different analytical interpretation of the results is required.

To overcome the problem with children, a further category entitled “future disabilities” was added to the 14 major groups of disabilities mentioned above, to include children under 6 who had not yet developed any manifest disability but who would certainly do so in the future as a result of an impairment. A total of 20,949 such cases were identified.

It must be emphasized that the disabilities, impairments and handicaps which were analysed in this survey were not only studied as such, but also in relation to other health, social, economic and cultural variables which made possible a more precise assessment of Spanish society in terms of the WHO International Classification of Impairments, Disabilities, and Handicaps. In addition to factors such

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FIG. 3

MEAN NUMBER OF HANDICAPS PER DISABLED PERSON
NOMBRE MOYEN D’INCAPACITÉS PAR PERSONNE HANDICAPÉE

Age group — Groupe d’âge

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as age, sex, and socioeconomic situation, preliminary analyses (4) concentrated on factors such as birth rank, age of mother at birth, and type of delivery.

Conclusion

The survey of disabilities, impairments and handicaps carried out in Spain was largely based on the ICIDH. However, the classification cannot be used in this type of statistical work without adaptation, at least in its present form. Some structured presentation of the minimum common variables which could be used in surveys in different countries, and the type of adaptations encountered in individual surveys should facilitate comparisons at the international level.

SUMMARY

A survey was conducted in Spain in 1986 to estimate the number of people with disabilities and to identify the impairments which had given rise to them. The survey also set out to identify the causes of these impairments and to analyse the nature and extent of the handicaps resulting from these impairments and disabilities.

The frame of reference for the survey was the WHO International Classification of Impairments, Disabilities, and Handicaps (ICIDH), which was adapted in a number of ways. The most radical departure was to begin the survey with disabilities, which were considered easier to identify. 15% of the population presented a disability, the rate mostly increasing with age, with substantial differences between the sexes and pronounced gradients in relation to socioeconomic status in some cases. Analysis of disabilities and impairments by administrative area also revealed some significant geographical variations. The study of handicaps posed some particularly complex problems of methodology.

In conclusion, the work of the Spanish survey was facilitated by the use of the ICIDH, but this classification requires several substantial modifications before it can be systematically used in surveys of this type.

RÉSUMÉ

Utilisation de la Classification internationale des handicaps pour les enquêtes:
L’exemple de l’Espagne

Une enquête menée en 1986 en Espagne a eu pour but de fournir une estimation du nombre de personnes atteintes d’incapacités et d’identifier les déficiences à l’origine de ces incapacités. En outre, cette enquête devait permettre d’identifier les causes de ces déficiences et d’analyser la nature et l’importance des handicaps consécutifs aux déficiences et incapacités.

L’enquête a utilisé le cadre de la Classification internationale des handicaps (CIH) présentée par l’OMS, avec une série d’adaptations. La plus importante de ces adaptations fut d’axer le début de l’enquête sur les incapacités, considérées comme plus faciles à identifier. 15% de la population présente une incapa-

cité, avec en général un taux croissant par rapport à l’âge, et d’importantes différences selon le sexe, ainsi que, dans un certain nombre de cas, des gradients marqués par rapport au niveau socio-économique. L’étude des incapacités et des déficiences par zone administrative a permis de mettre en évidence des variations géographiques significatives. L’étude des handicaps a posé des problèmes de méthode particulièrement complexes.

En conclusion, l’utilisation de la CIH a facilité le travail d’enquête en Espagne, mais cette classification doit bénéficier de plusieurs adaptations importantes pour que puisse être systématisé son emploi dans les enquêtes de ce type.

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