Longevity and Longitudinal Studies
Factos affecting the use of health services in Spain

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SUMMARY

This paper analyses the utilization of Health Care as an indicator of the degree of need for these services and as an effective proof of access, with the objective of identifying models of use corresponding to four health contacts in Spain: Primary Health Care, Hospital Services, Emergency Departments and Dental Consultations. On the other hand the level of utilization related to the social, economic and demographic conditions of the population, while not trying to evaluate the quality of the health system expressed in terms of "accessibility", is also analysed.

INTRODUCTION

The analysis of the accessibility to a service can be undertaken from two geographical standpoints: 'potential accessibility' which emphasises the physical or spatial possibility of the service's use (MOSELEY, 1979), and 'revealed accessibility', as expressed need for a service according to its rate of use (DONABEDIAN, 1973). These two viewpoints are complementary: utilization of a service (revealed access) requires the presence of supply, but this availability (potential access) does not ensure the service's use, if the need for it does not exist. This paper analyses the utilization of Health Care in Spain distinguishing, on one hand, Primary Health Care and Hospital Services. The former being a fundamental element in the determination of overall access to health care per se than is often implied by its status as a 'filter' to higher levels of care, whilst the latter would perhaps depend more on the efficiency of the referral system (JOSEPH and PHILLIPS, 1984). On the other hand, a third Health Contact, which can also act as a doorway to the Health System, is through Emergency Departments. These make up for the reduced availability of out of hours Primary Health Care (PHILLIPS, 1981) and they may provide a way of circumventing the waiting lists for specialist attention (JOSEPH and PHILLIPS, 1984).

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Finally, in Spain where the Public Health System totally covers the population, dental care only provides cost-free status for extractions (a 'curative' aspect), whereas the rest of dental needs (of a more 'preventative' character) require a specific Health Contact through Dental Consultations, whose supply is outside the Public Health System.

MATERIALS AND METHODS

This analysis is based on the information offered by the Spanish National Health Survey carried out by the Ministerio de Sanidad y Consumo in 1987, with a sample of 30000 non-institutionalized subjects aged 16 and over. The reference periods for the analysis of utilization of Health Services are those used in the questionnaire.

Taking Andersen's Utilization Model (ANDERSEN, 1968) the following variables were selected: predisposing variables (personal characteristics like age, gender, marital status, academic level); enabling variables (household income, size of municipality); and need variables (self-perceived health status, declared chronic morbidity, and number of days incapacitated).

In order to simplify the analytical process (according to the bivariate analysis between the selected variables and every health service utilization variable, using test chi-square, p<0.05), only the most relevant information was selected: age (A) (predisposing variable), academic level (L) (a predisposing variable, also used in this case as an enabling variable) and self-perceived health status (S) (need variable).

Log-Linear Analysis was used consisting of:
- Identifying the interactions of the second K order as the most desirable level for the fitted model given that those of a higher level (even when they are statistically significant p<0.05) tend to render the explanation more complex.
- Assessing the consistency of the elements in the model which was obtained after an erasing sequential process (STEPWISE, in the program BMDP4).
- Selecting the elements of the model in accordance with the scientific assumptions already stated, the statistical significance and the most parsimonious representation of the data.

In order to check the consistency of the accessibility models obtained and to analyse the interactions of the categories of each variable, we employ Logistic Regression (program LR of BMDP), for the utilization of each individual health service, as dependent variable, and the other independent variables: age, academic level and perceived health status. LR calculates, in a sequential step by step program, the success proportion (in this case, the non-utilization of the health service in question) depending of the values of the independent variables, to define a logistic function where the coefficients are significant.

RESULTS AND CONCLUSIONS

The Models of Utilization resulting demonstrate in each case Andersen's scheme of sequential relationships: Age (A), an objective and independent variable which may predispose utilization, Academic Level (L), not only a predisposing variable but also an enabling factor, and Self-Perceived Health Status (S) an indicator of the need for attention. These all form a framework of stable relationships conveyed by second-order interactions (AL, AS, LS). In the case of Age-Academic Level Interaction (AL), there is a direct association between the elderly population (around 5000 of those interviewed) (A=0) and illiteracy (L=0), which means a larger proportion of individuals in this group without education (13%), than people with a high academic level (L=5) (7%). As for the population who claim to be in good health (S=5) (2/3 of the total sample), an inverse association is clear when the individuals concerned are 65 years old and over (A=5); in this way 10% of those who consider themselves to be in good health are elderly people compared to 43% who are younger than 45 years (A=0).

Finally, there is a direct association between levels of perceived good health (S) and that part of the population with secondary-tertiary levels of education (L). In fact 40% of those who claim to be in good health have higher education compared to only 3% who are illiterate. In other words, there is a greater probability that the elderly population will be illiterate (A=L) and that those in good health will be less than 45 years old (S=L) and will have reached a high academic level (S=L).

Specifically taking the interactions which the use of a Health Service imply it is possible to identify three types of model.

Firstly, the use of Primary Health (P) and Hospital Services (H), which affects 5200 and 2000 people respectively of the total survey. The direct interaction variable with the utilization of these services is the self-perceived health status (S) (need variable). The success proportion for both contacts (Fig. 1 and 2) depends on the need valued by each population group, but also on the required service in such a way that hospitalization carries with it a success proportion higher to that for Primary Health Care. This confirms the position of this type of health contact as a filter for the following steps of attention. In these consultations (Fig. 1) there is a trend towards a smaller success proportion (a greater level of utilization) amongst the elderly, given that it is not evident when the perceived level of health is poor (the degree of the slope is close to zero). Indeed, it would seem reasonable to think that a state of health perceived as being poor produces in all age groups a need to go to a Primary Health Care services. In contrast, hospitalization (Fig. 2) shows a general trend to increase the success proportion -an absence of hospital entry- amongst the older population, a trend which is specially evident amongst those who consider their health to be bad or very bad (b=0.2).

In the case of access to Emergency Services (E), affecting 3200 individuals, again the self-perceived health status (S) acts as a direct interaction variable with the utilization of these services, but this model also incorporates the direct interaction with the age variable (EA). Fig. 3 shows that this success proportion is less than for hospital entries but higher than in consultations, i.e. a mixed service as long as the evaluation of need comes from the consumer but with a filter for self-imposed use
and that derived from acknowledgment of the seriousness of the problem (PADGETT and BRODSKY, 1992). Furthermore, as in the case of hospitalization, the scheme of trends shows greater success proportions (less utilization) amongst the elderly and with more defined slopes which stand out more when health is considered to be poor. An explanation of these values could be found in the increased level of work related risks and the higher accident rate experienced by the young and adult population which contrasts with chronic morbidity most evident in the elderly population (ABELLAN et al, 1990; ROJO y FERNANDEZ-MAYORALAS, 1992).

Finally, for the 3900 people who have had Dental Consultations (D), the relationship pattern differs substantially from the previous models: the interaction with self-perceived health status is absent, but the interaction with academic level (DL) can be included and the association with age (DA) is not so important but it still exists. This is in line with other research which states that predisposing variables have more influences than others on dental consultations (WAN and ODELL, 1981; EWASHWICK et al, 1984; BOWLING et al, 1991). The use of dental services is positively associated with the youngest sectors of the population (DyA y) and that part who have higher academic levels (DyL H) (61% and 41% respectively) who also encounter fewer socio-economical barriers to the utilization of this type of service which induces them to maintain a regular or routine pattern of preventative health care (NEWMAN and GIFT, 1992). In this way (Fig. 4) the point of change in the trends of use appears around 55 years of age separating adults and young people, on one side, and the elderly, on the other, so that academic level doesn't seem to have much influence after this age, perhaps because other types of dental problems stand out which require a more 'curative' type of medical attention.
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