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Health Literacy Survey Portugal: a Contribution for the Knowledge on Health and Communications

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Abstract

The Portuguese Health Literacy Survey (HLS-PT) was developed and applied in Portugal on 2014, and its core goals were to contribute to an increase in the knowledge about the level of health literacy in Portugal and identify the main limitations, problems and obstacles associated with health literacy in Portuguese society, and to target the potential for future action in a way that will improve the current reality. In order to permit comparisons with other European countries, this study followed the methodology proposed by The European Health Literacy Survey HLS-EU (HLS-EU Consortium, 2012: Comparative Report on Health Literacy in Eight EU Member States). Our main conclusion shows that literacy level in Portugal is very similar to other countries of the European survey and that information sources are an important instrument to improve health literacy.

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1. Literacy and health literacy: an introduction

In recent years *health literacy* has been taking on a growing centrality in the reflection on health systems, and above all in the various aspects of the interaction between individuals and those systems¹.

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Awareness of the importance of this subject initially arose when it began to become clear that individual literacy levels are a factor that decisively conditions the way in which people are, or are not, able to take correct decisions linked to their own health. They thus affect not only the quality of life of both the subjects and those who depend on them (children, for example), but can also have implications for the costs of health systems and the ways in which they are organised.

It is now quite widely accepted that the concept of *health literacy* entails “*The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions*”².

1.1 Health Literacy Context

Depending on the study, different authors can adopt concepts of literacy that present certain specificities. Such concepts can emphasise the ability to understand and utilise written information about health^{3 4}, or the field of research can be broadened to look at other important dimensions, such as understanding other sources (e.g. oral), or individuals’ ability to communicate, including with health services. The fact is that the interaction between health-service users and the different professionals in the sector seems to be one of the key questions in this research domain³.

The research that has been done to date has made it possible to collect valuable information on the way in which health literacy levels can affect the condition of people’s health and the use of health services. A recent review of the various studies conducted in this area⁵ allows us to conclude that low levels of competency here are associated on the one hand with more in-patient stays and more frequent use of emergency services, and on the other with less use of preventive practices. The same survey also highlights the shortage of studies with a broader and/or comparative scope.

Relatively few studies have provided data that would make it possible to extensively and comparatively investigate populations’ health literacy and either the factors that condition it, or its consequences.

In the USA and Canada – frontrunners in the research in this field – the opportunity and knowledge that formed a starting point from which the first studies were able to outline a portrait of the population’s health literacy based on representative samples were provided by studies on adult literacy skills. Those studies are structured around a concept of literacy that entails the understanding, evaluation and use of, and relationship with, written texts produced on a variety of media, “to function in society, to achieve one’s goals, and to develop one’s knowledge and potential”⁶.

One of the most distinctive characteristics of these studies has been their methodology. The ability to make a direct assessment, as opposed to one that uses indirect indicators or is based on individuals’ declared perceptions of their own skills, implies developing tests that can simulate situations and problems from daily life which themselves require people to read and interpret written materials.

Literacy studies thus begin by collecting a diverse range of real written media, many of which are health-related, that frequently circulate in different spheres of day-to-day life. These materials are then used to propose a set of activities which, if they are to be undertaken adequately, require some ability to process the written information presented. Despite the necessarily artificial conditions in an interview, the idea is that the problems posed should be as authentic as possible, simulating the situations and type of information that anyone may want to understand or use on the basis of a given text. The responses are given in writing and their analysis serves to assess the various pre-established dimensions of the respondents’ literacy skills⁷.

This type of methodology began to be developed in studies with a national scope in the USA^{6 8} and Canada⁹, but was later adopted in the first international studies to assess the literacy skills of adult populations^{10 11}. Although they didn’t specifically focus on health literacy, these studies produced important empirical information for this line of research and really made it possible to take it to a greater depth, specifically in the USA and Canada^{3 4}.

Quite apart from anything else, this possibility is derived from the partial overlap of the two goals: literacy studies almost always look at the demand for and the use/understanding of written materials about health; and research into health literacy always includes the ability to use different sources of information, which necessarily include written formats (instruction leaflets for medicines, information leaflets, books, internet, searches, etc.). So although the limitations of this approach are acknowledged, it was for example possible to conclude that in 2003, 60% of Canadians did not possess the minimum skills required to deal with the needs and problems they faced in relation to health

literacy^{3 4}.

The research that has been done in Portugal in this regard is still very insufficient. A 1994 national literacy study¹² offered a first picture of the distribution of literacy levels among the Portuguese population. Later on, Portugal took part in an international literacy study whose results showed that at the time, around 80% of the population did not have enough literacy skills to deal with the demands of today's societies^{7 11}.

If we focus our systematisation of the information solely on the known data about Portuguese society, we can see that it is now clear that literacy is conditioned primarily by individuals' education. In other words, as one might expect, education is the main predictor of literacy: individuals with low schooling also tend to present low levels of literacy, which consistently increase with the number of years spent studying. In turn, the correlation between literacy and age is negative, even when one controls the effect of education. This fact is particularly relevant in the context of Portuguese society, because it indicates that the older members of the population, even when they are educated, are especially vulnerable in this regard. The results also show that low literacy levels reduce subjects' autonomy, and are also associated with situations of poverty and social exclusion⁷.

Given the centrality of the internet in today's societies, specific research on health and the internet has also been conducted in Portugal. In a study on the Portuguese, Health and the Internet, as part of the SER Project – A Saúde em Rede (SER Project – Networked Health – Supported by FCG – 2010-2013; Final Report presented in June 2013 and available in Portuguese at <http://ser.cies.pt>), it was possible to conclude that a significant part of the population residing in Portugal still does not have access to the new technologies, or doesn't know how to handle their potentials; we can find a number of social regularities between the use of ICTs and the degree of educational, professional and financial resources possessed; the oldest and least literate members of the population with the least financial resources are unable to access ICTs, as are people aged 45 and over with elementary levels of schooling and low average incomes (around 50% of the resident population). We also can conclude that the use of ICTs in the health field reveals a country that operates at various speeds - the people with a closer relationship with the internet are the intermediate social strata aged between 25 and 44 years, who display more trust in the web and present more autonomised ways of relating with both their own health and medicine as a whole. Although its relative importance is increasing, health-related learning using new technologies has not led to a reconfiguration of either the existing information sources, or the relationships individuals establish with health systems¹³.

So, we can conclude that this resource's autonomy does not replace or compete with the knowledge transmitted by either health professionals or the people individuals are closest to.

1.2 The European Health Literacy Survey (HLS-EU)

There have been two types of extensive study designed specifically to assess health literacy: direct assessment and indirect assessment studies. The former are based on a set of scales or tests, some of which are designed to assess health literacy in specific areas of intervention (e.g. diabetes); the latter begin with a strategy that primarily uses the respondents' self-assessments of their abilities and skills. In addition, there is a third type, which seeks to combine both strategies, including both direct and indirect indicators.

This is the case of the European Health Literacy Survey, which was carried out in eight countries in 2011 and permitted a number of important new developments in this field of research¹⁴ (Comparative Report on Health Literacy in Eight EU Member States. The European Health Literacy Survey HLS-EU, online publication: <http://www.maastrichtuniversity.nl/web/Institutes/FHML/CAPHRI/DepartmentsCAPHRI/InternationalHealthResearchINTHEALTH/Projects/HealthLiteracyHLS-EU.htm>).

This was a first attempt to employ an extensive methodology to investigate health literacy in Europe, and was supported by the construction and application of a specific information-gathering instrument for measuring this phenomenon. The project involved applying a questionnaire-based survey. Using the same instrument in the various participating countries ensured that the results would be comparable at the European level.

The study defined health literacy as follows:

Health literacy is linked to literacy and entails people's knowledge, motivation and competences to access, understand, appraise, and apply health information in order to make judgments and take decisions in everyday life

concerning healthcare, disease prevention and health promotion to maintain or improve quality of life during the life course¹⁵.

Eight countries took part in the European study: Austria, Bulgaria, Germany, Greece, Ireland, Netherlands, Poland and Spain). A random sample of around 1,000 citizens was surveyed in each one.

2. Methodology

2.1. The Portuguese Health Literacy Survey

The idea behind this project was to take advantage of the experience derived from the European Health Literacy Survey (HLS-EU) in order to support research into health literacy in the Portuguese context.

To this end we adapted the questionnaire-based survey used within the framework of the European research, while also adding another set of indicators. The Portuguese population is quite old and has also low levels of literacy in general, as well as a high percentage of digitally excluded.

Given that the instrument had already been tested and had produced results in eight countries, on the one hand we sought to make the first map of the Portuguese population's health literacy, and on the other to situate our results in the European context, in the light of the known HLS results for those eight countries. The questionnaire was validated for the Portuguese population.

Main dimensions of the questionnaire-based survey:

Closely following the methodology used in the European Survey, we considered indicators that take account of the complexity of health literacy skills, distinguishing between four ways of dealing with important information about health:

- The ability to *access* the information.
- *Understanding* the information.
- The ability to *appraise* the information.
- Its *application* in a variety of different situations.

These skills were assessed with reference to different domains of subjects' relationships with health literacy:

- a) As a patient needing healthcare.
- b) As an individual who presents a risk framework and relates to health services primarily with regard to prevention.
- c) As a citizen seeking to promote his/her health.

Crossing the different ways of dealing with information on the one hand with the three health literacy domains on the other produced a matrix containing 12 sub-dimensions, which in turn guided the construction of the indicators for inclusion in the questionnaire-based survey (see Table 1).

Table 1: Matrix of sub-dimensions of Health Literacy used in the HLS

Health Literacy	Access/obtain information relevant to health	Understand information relevant to health	Appraise/judge/evaluate information relevant to health	Apply/use information relevant to health
Healthcare	Ability to access information on medical or clinical issues	Ability to understand medical information and derive meaning	Ability to interpret and evaluate medical information	Ability to make informed decisions on medical issues
Disease Prevention	Ability to access information on risk factors	Ability to understand information on risk factors and derive meaning	Ability to interpret and evaluate information on risk factors	Ability to judge the relevance of the information on risk factors
Health Promotion	Ability to update oneself on health issues	Ability to understand health-related information and derive meaning	Ability to interpret and evaluate information on health related issues	Ability to form a reflected opinion on health issues

Source: HLS-EU Consortium (2012) - Adapted

The questionnaire consists of a set of 47 items with regard to which individuals were invited to position themselves on a scale of 1 to 4, where 1 was the highest level of difficulty and 4 that of the greatest ease.

In addition to being questioned on the translated and adapted version of the 47 questions from the European questionnaire, an analysis of which is presented in this Report, respondents were also asked about other aspects considered relevant to an overall understanding of the issue of health literacy in Portugal at the present time. To this end we developed several specific modules:

- Section on ICTs and Health.
- Section on Literacy in the broad sense of the term.
- Section on perceptions of individual and family health.
- Section on an extended socio-demographic characterisation.

2.2. Universe, Sampling Method and Sample

The universe or population addressed in this study comprised the individuals aged 15 years and over residing in mainland Portugal (8,563,501 individuals, according to the 2011 Censuses).

The sample was selected using a method with several steps:

First, we selected 104 sampling points using a matrix that combined the region and the size of each locality.

A starting point was then established within each sampling point, and from that the interviewers used a random-route methodology to select the street, building, floor and finally the (random) individual housing unit.

Finally, in each selected dwelling the interviewee was selected using the quota method. The variables employed were gender and age.

The information was gathered by means of a personal interview conducted within the dwelling. It took an average of 31 minutes to apply each questionnaire.

The fieldwork took place between 30 June and 31 August 2014.

The sample was composed of 2,104 individuals. In a simple random sample, this represents a maximum error of 2.2% and a 95% confidence level.

A weight variable was calculated in order to ensure that the sample correctly reflected the distribution of the population in relation to a set of key variables. The latter were region, gender, age, education, and employment status. The sample as the following characteristics:

- Slightly more women than men (52.8% to 47.2%).
- The prevalent age group is the 35-44 years category (34.3%), followed by the more elderly population – i.e. the over-64s (22.6%).
- The majority of the population had relatively little education (62% with at most Basic 2), while only a minority possessed tertiary education (15.4%);
- Where employment status was concerned, the majority of respondents were in work (55.8%), but a very high proportion was not (7.3% because they were studying, and 36.9% because they were in other situations, such as retiree or homemaker).

3. Results and Discussion

3.1. Main Results

Health literacy has been acquiring a growing centrality in the thinking about health systems, and above all about how individuals interact with every dimension of those systems. The importance of this topic is revealed when it starts to become clear that individuals' literacy levels are a factor that decisively conditions the way in which they are, or are not, able to take correct decisions linked to their health. It thus affects not only the quality of life of the subjects themselves, but also that of their dependents (e.g. children, but also an increasing number of elderly persons, given the shape which the structure of the Portuguese age pyramid is taking on), and will certainly have implications for the costs of our health systems and the ways in which they are organised.

Low levels of competencies in this domain can be related with a lesser ability to manage chronic illness, a lesser ability to resolve problems that can be managed at home, larger numbers of in-patient stays and more frequent use of emergency services on the one hand, and less frequent use of preventive practices on the other.

The present study has made it possible to position Portugal within the European dynamic, incorporating the data observed here for the various dimensions under analysis with the equivalent reality determined in other countries. Conceptually, these dimensions are the product of the crossing of the three health literacy domains (healthcare, disease prevention, health promotion) with four ways of dealing with health-related information (accessing, understanding, appraising, and knowing how to use information that is relevant to health).

The application in Portugal of a translated and adapted version of the European Health Literacy Survey with some new sections has permitted a more in-depth knowledge of the Portuguese population's ability to decode, understand and interpret health-related messages. It has also made it possible to identify not only the areas in which the Portuguese possess a level of literacy that is more suited to their needs, but also those in which it would be more useful to intervene in order to improve their capability in this respect.

Characterising the sample highlighted the limited presence of reading practices in most of the day-to-day activities engaged in by the respondents, more than 40% of whom said they never read books or reference manuals. The most frequently mentioned practices were reading articles in newspapers and magazines, or reading letters or e-mail messages, but even so only involved a minority of the population. Nearly 20% said that they never read directions or instructions.

Writing activities were even less present in individuals' daily lives. The only minimally commonplace form of writing involved letters, memos or e-mails (28% of respondents), but 36% of the sample never engaged in writing practices. Numeracy practices were also residual or non-existent (56.5% of respondents never interpreted diagrams, graphs or tables).

Taken as a whole these results make us aware of the Portuguese population's specificity where daily literacy practices are concerned. Given what the respondents told us, reading, writing, numeracy activities and using computers and the internet only form part of the daily routines of a minority. This data cannot fail to be taken into account when we try to understand this population's health literacy.

As in the case of its European counterpart, the questionnaire applied in Portugal considered indicators that address the complexity of health literacy skills, with particular emphasis on:

- The ability to access information.
- Understanding information.
- The ability to interpret and appraise information.
- Its application or use in a variety of situations.

These skills were assessed with reference to different levels in terms of the subjects' relationship with health literacy:

- a) As patients needing healthcare;
- b) As individuals presenting a framework of risk, whose relationship with the health services above all involves prevention;
- c) As citizens seeking to promote their own health.

Analysing the 47 items in the literacy matrix we proposed for the Portuguese survey showed that the greatest difficulties (very difficult + difficult) were related with:

- a) The ability to access information about:
 - Promoting health in the workplace
 - Mental illness
 - Activities that are beneficial for mental well-being
 - Treatments for worrying illnesses
 - How to make the area where people live healthier
 - Health-related policies
 - Taking part in actions designed to improve the community
 - Going to a gym or other sports or exercise, facility
- b) The ability to interpret and evaluate:
 - The information about illnesses and health risks and ways to protect oneself from them that is disseminated by the media
 - The advantages and disadvantages of different treatment options, necessary or required vaccinations, or asking for a second doctor's opinion
 - Understanding the instruction leaflets that come with medicines.

3.2. Comparing HLS-EU and HLS-PT

Having constructed health literacy indices in accordance with the HLS-EU methodology and for the four main areas – General Literacy, Healthcare, Disease Prevention, and Health Promotion – we identified four levels of health literacy. A number of aspects particularly stand out in our analysis of the four levels in the four different areas.

In the case of the General Health Literacy Index, Portugal is characterised by the presence of 11% of respondents with an inadequate level of literacy and around 38% with a problematic one. 50% of respondents possessed an excellent (8.6%) or sufficient level of literacy. Compared to the HLS-EU data, Portugal is situated below the average for the countries in the European study, but the 8.6% 'excellent' finding places it below any of the eight HLS-EU countries in this regard.

Turning to the Healthcare Literacy Index, Portugal presents limited healthcare literacy among 45.4% of the population (10.1% inadequate, 35.3% problematic). On this index we present one of the lowest concentrations of individuals with either excellent (11.3%) or inadequate (10.1%) literacy levels in any of the nine countries. Portugal is similar to Spain, in that both countries reported relatively few respondents in these most literate and least literate categories.

Where the Disease Prevention Literacy Index was concerned, 45.5% of respondents were concentrated at levels (inadequate or problematic) with limitations. Compared to the HLS-EU values in this domain, Portugal was below the average in this respect, although we should note that Spain and Greece both concentrated around 50% of their populations at these literacy levels.

Finally, on the Health Promotion Literacy Index 48.9% of respondents in Portugal were concentrated at the more positive levels of literacy in this respect (excellent or sufficient), while 51.1% displayed limitations (problematic or inadequate). If we compare this to the HLS-EU data, Portugal is situated slightly above the average values, distancing itself somewhat from Spain and Austria, where more than 55% of the population presented imitations in terms of health promotion literacy.

Inasmuch as we observed a statistically significant association between respondents' age and education and their relationship with health literacy, we sought to detail literacy levels by age, education, and social class (with the latter variable a combination of the variables education, employment status, and occupation).

3.3. Conclusion

A number of findings cut right across all the indices:

It was the younger respondents (up to the age of 45 years) who concentrated both the best level of literacy in its own right (excellent), and the two levels considered adequate (excellent and sufficient). On the other hand, it was among the oldest persons that we found a higher proportion of more limited levels of literacy. The younger the respondent, the higher the level of health literacy.

The better literacy levels were concentrated among individuals with higher levels of education, while on the other hand, we found a higher proportion of individuals with limitations (problematic or inadequate) in relation to health literacy among respondents who had spent less time at school. The higher the level of education, the better the level of health literacy.

The largest number of individuals with higher levels of health literacy was concentrated among professionals and managers, while it was self-employed persons and industrial workers who presented more limitations.

In an attempt to identify and rank the main explanatory factors for health literacy in Portugal, we tested multiple linear regression models for each of the literacy domains. The results for the general index show the following:

The main variables that explain health literacy are daily reading practices, followed by practices linked to computer and Internet use. In other words, health literacy scores tended to increase as respondents engaged in more daily practices involving reading and the use of information and communication technologies. This confirms that health literacy cannot be dissociated from literacy in general (in the broadest sense of the term).

These practices are followed by age and education, both also with a statistically significant effect, thereby confirming that younger and more highly educated individuals tend to score more highly on this index. This demonstrates that the (negative) effect of age is not derived solely from intergenerational differences in levels of education, given that age retains a specific, significant effect even when education is considered. We can thus say that advanced age and low educational qualifications together make a negative contribution to individuals' health literacy.

Finally, the respondents' self-perceived state of health also appears to be an important predictor. The relationship is clear: more favourable assessments of one's own health are associated with better results for all four literacy indices. To put it another way, the more negative the perception individuals have of their own current state of health, the worse their situation in terms of health literacy.

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