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Online health information for the elderly¹

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ABSTRACT

The aim of this paper is to investigate how health information and advice is communicated to the elderly on the Internet, which can be considered one of the main sources of information nowadays, even for the older generations. Recent studies have shown that there is a worryingly low level of health literacy among the elderly. As a consequence, the quality of health information made available to the public is of utmost importance. The analysis is made using a theoretical framework that takes into consideration both the cognitive and communicative dimensions of knowledge transfer, as well as the use of multimodality. The cognitive aspects cover the strategies adopted to explain 'technical' information to the reader, as for example through the use of definitions, examples, scenarios, metaphor in order to facilitate understanding, whilst the communicative strategies aim to establish a relationship of trust between the addresser and addressee. The study will also consider the role of lay knowledge.

Keywords: health information, the elderly, technical knowledge, advice giving.

1. Introduction

In recent years the medical profession has been paying greater attention to the question of health literacy as a means of empowerment for individuals to make informed decisions about their health and well-being (Sak et al. 2017). Health literacy may be defined as "the capacity that an individual

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has to access and effectively use health-related information, in order to promote and maintain good health” (<https://ecdc.europa.eu/en/health-communication/facts/health-literacy>). However, recent studies have shown that there is a worryingly low level of health literacy, both in the EU, where on average 47% of the population have limited health literacy (Sørensen et al. 2015), and in the UK, where only 43% of participants in the survey reached a threshold level (Rowlands et al. 2015). Among the risk factors quoted are socio-economic status, race, cognition, education level and age, which is, in fact, one of the highest correlates (Chesser et al. 2016: 1). Several age-related changes could account for low level literacy among the elderly, such as decline in cognitive ability, physical impairment including hearing or vision loss and psychosocial factors. The problem is compounded by the fact that, as people age, they face more and more health challenges and become increasingly vulnerable, often having to learn to manage and live with a number of chronic conditions. They may also feel embarrassed as they become aware of their failing cognitive abilities (Chesser et al. 2016: 1).

Limited health literacy has been shown to be associated with worse health status and higher rates of hospitalization. The human, social and economic consequences of low health literacy among the elderly will therefore become a major challenge in the near future as the share of elderly persons (aged 65 and over) among the population rises, and in particular with a rapid increase in the number of very old persons (aged 85 and over) (Eurostat 2015: 134). As a consequence, the quality of health information made available to the public has become of fundamental importance and the subject of many studies.

The aim of this paper is to investigate how health information is communicated to the elderly on the Internet, which can be considered one, if not the main source of information nowadays, even among the older generations. Indeed, the Eurostat survey (2015) reported that in 2014 38% of the elderly population in the EU, defined as those aged 65-74, used the Internet on a regular basis, at least once a week. This is compared with just 7% ten years earlier. And certainly, as younger generations who have used the Internet move into the older age groups, the number of ‘silver surfers’ will continue to increase. What is more, there has been a shift in the role of the patient from passive recipient to active consumer of health. Nowadays, a patient may want to gather information on the Internet about illnesses and conditions for personal interest, but often he will go to the doctor “armed” with that medical information ready to discuss and perhaps even challenge advice.

2. Health information

Specialized knowledge is not just a problem of technical content, but also of a specialized register and terminology. For knowledge to be transferred from expert to layperson it has to undergo a process of simplification that remodels both the language and content to suit the new target audience. This rewriting enables the reader/listener “to construct lay versions of specialized knowledge and integrate them with their existing knowledge” (Calsamiglia – van Dijk 2004: 370).

However, health information aims not only to improve the factual knowledge of the patient, but above all to convince him of the necessity and advantages of adopting a particular treatment or lifestyle. The information, therefore, has to be presented in a form of argumentation that has been described as “info-suasive”, in which information and persuasion are blended inextricably (Schulz – Rubinelli 2008). The traditional, paternalistic approach to patient care tends to ignore personal preferences, but nowadays a focal point of health care is the patient-centred approach. It views the patient not just in terms of his illness or a set of symptoms, but rather as a person with emotions, feelings, needs and preferences (Mead – Bower 2000). An essential element of this approach is empathy, which involves the ability to understand another person’s experiences and feelings and view them from their perspective (Hojat et al. 2002: 1563).

Another important element that needs to be taken into consideration is trust, as information and advice will be accepted only if trust is established between writer and reader. The source of the information needs to be credible (Neubaum – Krämer 2015: 872) and trust is greatest between people who share group identities and have similar values (Earle 2010: 543). The asymmetrical relationship between doctor and patient, expert and layman, may therefore constitute a problem in effective communication, especially if there is “a tendency to over-emphasise his role as the doctor and expert” (Gulich 2003: 258).

In any case, as Harvey et al. (2013) and Adolphs et al. (2004) suggest, giving advice is a delicate task, because it is generally considered face-threatening in Anglo-Western contexts. Certainly the addresser is giving recommendations of what he thinks is best, which leaves an option open to the patient to adhere to the advice or not. The reader, nevertheless, may not be very receptive and view advice as indirect criticism. This means that the argument presented to persuade the reader needs to be not only ‘reasonable’ in the sense of logical, but also ‘acceptable’ to his point of view (Grasso et al. 2000: 1078).

3. Online communication

Although there is an abundance of information available on the Internet, searching and gathering information is not as simple as it would appear. The sheer amount of information available on the Internet can be overwhelming, which means that complex metacognitive skills are needed, such as planning, search strategies and evaluation of information. "Internet literacy is not the ability to use a set of technical tools: rather it is the ability to use a set of cognitive tools" (Johnson 2007: 433). It involves reading text, interpreting images or watching a video, and, as a consequence, there is a need to be multiliterate (Caballero 2008: 15), placing further demands on the reader.

However, the channel itself does go some way to help. Firstly, information can be presented in small, independent, self-contained pages, which are then subdivided into sections or paragraphs filtering and streamlining information, and thus making the acquisition of the information gradual and accumulative.

Secondly, communication involves much more than just language; it draws on a multiplicity of modes, which include visual, spoken, gestural, written and other resources, all of which contribute to meaning and can be realized online. The use of visuals can enhance understanding of information and the learning process, whilst videos and animation can be used to explain a complex object, structure or process through a demonstration.

A distinctive feature of online communication is the opportunity it gives to readers to express their feelings and thoughts, and not just through structured and scripted videos. Neubaum and Krämer (2015) point out how personal anecdotes and emotionality play an important role in the persuasiveness of health information in blogs as opposed to official websites, though nowadays forums linked to websites provide many opportunities to visitors to share their experiences, ask for advice or simply express their empathy and solidarity.

One of the problems of online one-to-many communication is the unknown, heterogeneous audience, making it hard to define the level of shared, cultural, institutional and "world" knowledge and adjust the rewriting accordingly (van Dijk 2005). The terms elderly, seniors or older people may cover a range of situations and people at different stages of the ageing process. To accommodate the variety of readers, the text may become completely depersonalized, tend towards dumbing down or aim at too high a level of information, making it more difficult to engage with them.

4. Corpus

The study has been carried out using a corpus of texts giving information about age-related conditions that have been downloaded from three British websites, each of which has a different function and promoters. *Patient.info*, as the name suggests, is run by doctors giving health and medical information and advice in the form of a “comprehensive directory of evidence-based clinical information”. The *BUPA* website belongs to a healthcare group that is responsible for running health centres, care homes as well as offering health insurance. Apart from its promotional purpose, the website also provides information about health conditions, covering topics of interest to all age groups.

Table 1. Corpus

	patient.info	BUPA	AgeUK
Main topics	<i>Senior health</i> – What are the normal signs of ageing? – The secrets of living to 100 years old – How to have a great sex life in later life – Ageing feet – What’s causing your cold hands and feet? – Swollen legs – Osteoarthritis – Metatarsalgia – Ingrown toenails – Ageing – Age-related long sight – Hearing loss – Frailty and multi-morbidity – Polypharmacy – Memory loss and dementia	<i>A-Z topics</i> – Exercise for older people – High blood pressure – Coronary heart disease – Stroke – Type 2 diabetes – Osteoporosis – Back pain – Stress – Breast cancer – Bowel cancer – Parkinson’s disease – Dementia	<i>Conditions and illnesses</i> – Dementia – Eye health – Hearing loss – Incontinence – Osteoporosis – Depression and anxiety – 7 ways to boost your heart health – High blood pressure – Influenza (flu) – Seasonal affective disorder
Total words	38,000 approx.	47,000 approx.	23,000 approx.

Although neither website presents a link to information about the elderly immediately on its home page or in the main menu, they do deal with age-related problems. *Patient.info* includes a section called *Senior health*, which covers ageing and specific age-related conditions, and also directs the reader to more general pages about certain conditions. *BUPA* does not have a special section, though there are pages dedicated to age-related issues stemming from a page called *Exercising for the elderly* and the selection for the corpus followed these.

In contrast, *AgeUK* is not focused exclusively on medical issues, but is “the country’s largest charity dedicated to helping everyone make the most of later life”. Its purpose is therefore the general wellbeing of the person, though there is a section called *Conditions and Illnesses* which has been used for this study.

5. Theoretical framework

Given its highly sensitive but also technical nature, the complex process of transferring health information from expert to layman must work in two different dimensions at the same time, the cognitive and the communicative. As far as the cognitive dimension is concerned, a number of studies on knowledge dissemination have identified a series of verbal strategies used to transfer expert knowledge, generally grouped under Illustration and Reformulation strategies (Ciapuscio 2003, Gülich 2003, Calsamiglia – van Dijk 2004). Illustration strategies are verbalization strategies chosen by writers/speakers according to the context, the purpose and the interlocutors, including:

- description – to explain unknown things
- definition – to explain unknown technical terms
- exemplification – to explain complex concepts in everyday terms
- scenario – to explain a complex event by presenting a possible, but hypothetical situation
- metaphorical language – including metaphor, analogy and comparisons
- concretisation – the rewording of abstract information in a non-abstract manner.

Reformulation strategies change or modify what has been said to clarify the meaning and make it more comprehensible. In spoken discourse the speaker ‘doubles back’ on his own or interlocutor’s speech in order to produce

a new, reworded version that is considered more satisfactory to avoid a breakdown in understanding and communication. In written or scripted texts, reformulation strategies aim to pre-empt any misunderstanding or difficulty in understanding. These strategies are repetition and paraphrasing and are formally marked by relative clauses, apposition, parentheses, dashes and metalinguistic expressions.

For knowledge transfer to be effective, the interpersonal dimension of communication is as important as the cognitive dimension (Giannoni 2008, Hyland 2010). Although these studies were concerned with academic discourse, the basic idea of the writer/speaker having to negotiate the social relationship with the reader/viewer to establish his authority and credibility remains valid in all contexts of knowledge transfer. Specific features, such as the use of questions, metaphors, marked lexis, personalization and humour, can be used to attract the attention and engage the reader. Adolphs et al. also provide a useful guide for the analysis, because it is specifically concerned with healthcare encounters and focuses in part on “enlisting the participation or involvement of the recipients of health advice [which is] by no means automatic or straightforward” (2004: 16). They identify the use of personal pronouns, modals and the logical operators *if* and *or* as important devices for focussing attention on the patient and consequently involving him in the discourse, as well as presenting advice as possible solutions without imposing too heavily on the reader.

Table 2. Knowledge transfer strategies

<i>Cognitive dimension</i> (Ciapuscio 2003; Gülich 2003; Calsamiglia – van Dijk 2004)	<i>Communicative dimension</i> (Hyland 2010; Giannoni 2008; Adolphs et al. 2004)
Illustration or explanation – description – definition – exemplification – scenario – metaphorical language – concretization Reformulation – paraphrase or repetition	– personalization – politeness markers (modality, hedges, vagueness) – questions – humour – metaphors – marked lexis

Research, especially in health communication and education, shows that an integrated approach of text and images enhances knowledge transfer

(Michielutte et al. 1992, Houts et al. 2006). Illustrations can help readers to understand and retain information in a way that text alone cannot by drawing on the four fundamental aspects of the learning process, namely attracting attention, enhancing comprehension, aiding retention and creating a context. They present simultaneously all the information needed to explain a topic, to give an overall view of it, and to represent the relationship between its different elements. Videos can also give a physical, albeit virtual, presence either to a professional/expert to replicate more closely a consultation or to people who have had first-hand experience of a situation and want to share their story. All these modes will make the information more direct and engaging.

This theoretical framework has already been adopted by the author in a number of studies on Knowledge Dissemination in the field of economics (Turnbull 2015c), the law (Turnbull 2018) and health information for adults, adolescents and children (Turnbull 2015a, 2015b). The latter, which focused on information about diabetes in which patients of all ages need to have a very clear understanding of their condition, found that the full range of cognitive strategies were adopted in all sections regardless of the target audiences. The information load varied according to the age group, but technical terms were introduced even for very young children. The importance of multimodal affordances, whether visuals or videos, also emerged because they enhanced the explanation of technical content, but also lent a voice to fellow sufferers who could give accounts of their own experiences of the condition. In the following section the analytical framework will be applied to online health information for the elderly to see which strategies have been adopted in this particular context.

6. Analysis

6.1 Cognitive dimension

6.1.1 Use of cognitive strategies

Various cognitive strategies were adopted to simplify the information conveyed. Definitions (1) and (2) were used extensively in the 'medical' websites, *patient.info* and *BUPA*, as in the following examples.

(1) What is polypharmacy?

Polypharmacy is the use of multiple medications at the same time by one person. In other words, it means being on lots of different medicines. Usually a person who is on quite a few different pills has more than one medical condition. (patient.info)

(2) About osteoarthritis

Arthritis is a general term meaning inflamed, stiff and painful joints. Osteoarthritis is the most common form of arthritis, affecting around a third of people aged 45 and over in the UK (around 8.75 million people). You're more likely to develop osteoarthritis the older you get. (BUPA)

Description was also used to explain complex processes taking place in the body. (3) talks about the physical act of focusing on close-up objects as part of a webpage on age-related long sight. It introduces the topic, *In order to see close-up objects, our eyes have to accommodate*, which is then reformulated, *this means*, into a long, step-by-step description of the mechanisms involved. This general information is then applied to the context of ageing. Similarly, (4) uses short sentences to describe the stages leading up to coronary heart disease.

(3) Presbyopia is long-sight (hypermetropia), caused by age.

In order to see close-up objects, our eyes have to accommodate. This means that the lens changes its thickness. Its thickness is adjusted by the ciliary muscles that attach to the suspensory ligaments at either end. As these muscles tighten, the ligaments lengthen and the lens becomes more thickened and curved. Light rays from close objects are brought into sharp focus on the retina.

As we become older the lens becomes more stiff and less elastic. This makes it more difficult for the lens to change shape – the ciliary muscles have to work harder to make it do so. Eventually they are unable to do this at all and the lens cannot be thickened. With the lens in its normal resting position you are still able to focus on objects in the distance – long sight. However, because the lens cannot thicken, it cannot manage the extra degree of focus (accommodation) which is needed for near objects. (patient.info)

(4) Coronary heart disease happens when fat and cholesterol from your blood build up over many years inside your artery walls. They form what are called plaques and the process of fat building up is called

atherosclerosis. As a plaque forms, this narrows your artery and reduces the blood flow so the result is your heart muscle doesn't get all the oxygen it needs. And sometimes a plaque may rupture, and a clot can form on top which suddenly blocks your artery completely (causing a heart attack). (BUPA)

In both (3) and (4) there are a number of medical terms, both anatomical (*ciliary muscles, suspensory ligaments*) and technical (*accommodate, plaques, atherosclerosis*). Technical language can act as a barrier or a bridge in expert-layman communication, but here the terminology is preceded by a gloss in (3) *Presbyopia is long-sight (hypermetropia)*, reformulated in (4) *the process of fat building up is called atherosclerosis* or illustrated in a detailed anatomical diagram that summarizes the text (Martinec – Salway 2005: 352). As previous studies have shown, definitions and the introduction of highly technical terms are frequent (Gülich 2003: 240), as they enable the reader to orient himself when he comes into contact with medical professionals and during hospital appointments.

Description (5) and exemplification (6) are also used at times to help patients recognise symptoms.

- (5) Women are also much more prone to a condition called Raynaud's syndrome [...] In Raynaud's, your fingers and sometimes toes turn cold and white, then go blue and numb when exposed to cold. (patient.info)
- (6) Stress is a term used to describe how you feel and respond when the pressure you're under exceeds your ability to cope.
Mental effects of stress can include:
- *feeling that you can't cope*
 - *constantly worrying*
 - *finding it hard to concentrate and remember things*
 - *feeling disappointed with yourself*
 - *lacking confidence*
 - *seeing only the negative things in life* (BUPA)

Similarly, scenarios are used to present what may happen with tests or different types of treatment and medication.

- (7) Treatment
 If you are diagnosed as having high blood pressure (hypertension) then you are likely to be examined by your doctor and have some routine tests which include:

- A urine test to check if you have protein or blood in your urine.
- A blood test to check that your kidneys are working normally and to check your cholesterol level and sugar (glucose) level.
- A heart tracing, called an electrocardiogram (ECG).
The purpose of the examination and tests is to:
 - Rule out (or diagnose) a secondary cause of high blood pressure, such as kidney disease.
 - Check to see if the high blood pressure has affected the heart.
 - Check for other risk factors such as a high cholesterol level or diabetes. (patient.info)

6.1.2 Information load

The examples given above come from just the *patient.info* and *BUPA* websites. Although the information was framed into short, simple paragraphs with clear, meaningful headings that guide the reader and facilitate understanding (Nielsen 1997), as has become standard practice in websites, the information in (3) and (4) was extremely detailed. If we compare directly information about a topic that appears in all three websites, namely high blood pressure, we can see noticeable differences in approach. Once again both medical websites give detailed explanations of what happens with high blood pressure and its consequences.

- (8) High blood pressure happens when the force on the walls of blood vessels (caused by the blood within them) is more than normal. This means the heart has to work harder and the blood vessels are under more strain, making it a major risk factor for heart disease, stroke and other serious conditions. Healthcare professionals sometimes call high blood pressure ‘hypertension’. (patient.info)
- (9) High blood pressure (hypertension) is a serious condition that can affect anyone.
Every time your heart beats it pumps blood to the rest of your body through arteries. Blood pressure is created by the force of blood against the artery walls. If it is consistently too high, it puts extra strain on your heart and blood vessels. This may increase your risk of a heart attack, heart failure, stroke and other conditions including kidney disease and dementia. (BUPA)

In contrast, the *AgeUK* website introduces the topic from a patient’s more pragmatic point of view, going straight to the core of the question, the

need to check your blood pressure regularly, following the principle of the inverted pyramid style, where the most important information is given first (Nielsen 1997). It then lists five questions which could be asked by the patient to attract his interest and attention.

(10) High blood pressure

One of the simplest health checks, but also one of the most important, is your blood pressure level. Find out *why you should get checked regularly for high blood pressure*.

- *How many people are affected?*
- *Why is it important to measure?*
- *Wouldn't I know if I have high blood pressure?*
- *What are the risks associated with high blood pressure?*
- *What happens if I'm diagnosed with high blood pressure?*

An example of one of the answers is given below:

(11) Why is it important to measure?

Persistently high blood pressure (also known as hypertension) is a major cause of premature death and disability in the UK, because it can lead to strokes, heart attacks and heart disease.

If left untreated it can increase your risk of heart disease, kidney disease and dementia.

[You can find out more about complications on the NHS website \(AgeUK\)](#)

Here the sentences are short and clear with one idea per paragraph, but there is no explanation or description of high blood pressure. The cognitive load is very limited, improving the readability and enabling more efficient processing of the information. The reader is, nevertheless, invited to find out more, if he wants, at the link provided, where the information given is very similar to that on the *patient.info* and *BUPA* websites. *AgeUK* informs the reader of the need to measure blood pressure, but it also intends, in an implicit way, to 'shock' him into taking action. Whereas the *BUPA* website talks more vaguely about the possible risk of high blood pressure, *this may increase your risk of*, *AgeUK* says *it can lead to strokes, heart attacks and heart disease*. The difference between *may* and *can* is slight, but *can* gives added force to the statement, as it is not just a possibility, but also expresses the capability/potentiality (Palmer 1990) of high blood pressure causing strokes, heart attacks, heart disease and so on.

6.2 Communicative dimension

6.2.1 Empathy

The most immediate way of engaging with a reader is through the use of the 2nd person pronoun *you* to address the individual reader (11), or through the generic *you* referring to everybody (12) (Quirk et al. 1985: 354), which makes the tone less formal. This is found in all three websites.

- (12) Your body mass index (BMI) is a ratio of your weight and height. Your practice nurse will be happy to work yours out for you. (patient.info)
- (13) Type 2 diabetes is more common among older people, but you can develop it at any age. (BUPA)

The *patient.info* website appears to use a number of strategies to engage with the reader by creating a sense of solidarity. (14) shows the use of an inclusive *us* (Quirk et al. 1985: 354), as ageing touches everybody sooner or later, and colloquial and informal expressions, while (15) tries to align with the feelings of elderly people, firstly by sharing a positive view that *maturity* has at least one advantage, before giving some reassurance and encouragement about the problems of ageing.

- (14) You may not feel old on the outside, but age catches up with all of us and it's important to know the conditions you need to keep an eye on as each birthday rolls around. (patient.info)
- (15) Whoever said 'getting old is not for the faint-hearted' was only partly right. Maturity has much to commend it – who would want to relive teenage angst?
These days, medical advances mean we never have to suffer in silence with serious medical conditions, and many everyday ailments can be effectively relieved, if not cured. But when is a change 'normal' and when should you worry? (patient.info)

This website also uses humour, *youngsters* (i.e., over-90s), though it could sound a little condescending, and marked lexis such as *skew the odds*.

- (16) By 2016, there were 14,900 people over 100 years old in the UK – 65% more than there were in 2005. 850 of these are over 105 – double the number a decade ago. As for the youngsters, there are over half a million over-90s living in the UK today. So how can you skew the odds in your favour? (patient.info)

However, at times, the information is totally depersonalized, as for example in the section dealing with dementia, where the 'patient' is referred to in the 3rd person as *a person, someone, the person*.

- (17) For example, a person with early stages of dementia might go to the shops and then cannot remember what they wanted. It is also common to misplace objects. [...] Someone with dementia may not know common facts when questioned (such as the name of the Prime Minister). [...]

The person may also have difficulty keeping up their home. Shopping, cooking and eating may become difficult. (patient.info)

Only further down the page is the reader addressed directly, when the information concerns advice about what to do if you personally suspect dementia.

- (18) The first step if you are concerned that you may be developing dementia is to see your doctor. Or, if you are worried that someone close to you may have dementia, you should encourage them to see their doctor. They may agree for you to see their doctor with them. (patient.info)

The reason may be that the website wants to approach the subject of dementia in a more indirect, 'softer' way because of the strong social stigma attached to it. It is a very challenging condition for patients and carers alike and feared by most people.

BUPA deals with the subject in a similar manner, but at times shows a little more explicit empathy:

- (19) *It can be frightening* to hear dementia explained in this way, but you should know that dementia is not inevitable when you get older. (BUPA)
- (20) What does a diagnosis of dementia mean for you or your loved one? (BUPA)

Once again, this approach is in contrast with the *AgeUK* website that addresses the reader directly in the introductory lines of the page *Understanding dementia*. It tackles the problem head on, probably because if someone is searching for information, he already suspects there is something wrong. At the same time, it is also reassuring the reader that forgetfulness does not always mean dementia.

- (21) You may have had problems remembering things that have happened recently, or have found yourself getting confused in familiar places. You may be worried these are signs of dementia, though being forgetful doesn't necessarily mean you have dementia. [...] If you're worried about someone else, try to encourage them to see their GP. You could offer to go with them for support if they seem a bit reluctant. (AgeUK)

Although *AgeUK* generally adopts a more personal approach, it too uses the depersonalizing strategy when introducing an embarrassing condition, such as incontinence. Here the topic is introduced with a general *people*, thus suggesting the reader is not alone in this situation, before addressing him more directly, *interfere with your everyday life* and giving suggestions on how to cope with the situation.

- (22) People of all ages can have a problem controlling their bladder or bowel, and this can have a real impact on their daily lives. Some people avoid going out or need to plan their activities around a toilet.

People can be reluctant to talk about bladder or bowel problems, but in most cases the problem can be cured or managed so it doesn't interfere with your everyday life. (AgeUK)

6.2.2 Giving advice

The delicate task of giving advice, which is fundamental for the successful or effective outcome of health information, is performed in different ways by the websites. Imperatives, the most direct way of imparting advice, are used quite frequently by the *patient.info* website.

- (23) How can ingrown toenails be prevented?
- Cut your nails straight across; do not cut them too short or too low at the sides. The corner of the nail should be visible above the skin. (Tip: it is easier to cut nails after a bath or shower, when they are soft.)
 - Keep your feet clean and dry. Let air get to your toes when possible.
 - Avoid tight shoes and use cotton socks rather than synthetic. (patient.info)

It also uses a softer approach at times, as in the following example where advice is presented using the gerund and the logical operator *if* creates an option (as per Adolphs et al. 2004: 18).

(24) Can I get my blood pressure down without taking medication?
Sometimes there is quite a bit you can do with lifestyle changes, and in some people this may help them to avoid medication. In particular, the following help:

- Losing weight if you are overweight.
- Reducing the salt you have in your food.
- Taking regular exercise.

Stopping smoking doesn't reduce your blood pressure as such, but smoking and high blood pressure put you at risk of the same conditions. So if you can quit smoking, you'll reduce your risk of strokes, heart attacks, etc. (patient.info)

Advice in the *BUPA* website is usually given using informal introductory expressions, such as *try to*, *aim to*, *it's good to*, *you're probably already familiar with*, *this means you*, *you're more likely*, *you can still choose to try them if you wish*, so that suggestions are given without imposing on the patient. When imperatives are used, they too are introduced as options leaving the choice to the patient.

(25) There are a number of things you can do to help relieve back pain.

- Stay active and continue your daily activities as normally as you can. However, remember to take care when lifting or twisting your back. Doctors used to advise bed rest, but now we know it can make back pain worse. Try to avoid sitting for long periods.
- Do exercises and stretches – see our section on exercises for lower back pain below. [...]
- You may want to try applying heat or cold treatments to your back. Remember not to apply ice directly to your skin.
- You may find it helps to sleep with a small cushion between your knees, if you sleep on your side. Or with some firm pillows under your knees, if sleeping on your back. (BUPA)

A piece of advice is less imposing when a suggestion is made through the use of an impersonal, neutral gerund, especially after an introductory phrase expresses empathy and understanding of feelings:

(26) It can be difficult to be optimistic when you've had back pain for a long time. But staying positive as well as staying active can help you recover and avoid it becoming long term. (BUPA)

A similar strategy is adopted by *Age UK* to present advice about dealing with the difficulties of living with dementia. Imperatives are used, perhaps because they are more straightforward, easier to understand and therefore more appropriate in this context. However, this direct approach is ‘softened’ by the introduction saying they are *tips*, useful ideas that have already been experimented with by other fellow sufferers.

(27) Tips to help you live well with dementia

Everyone deals with the challenges of dementia in their own way, but here are some ideas that have helped others.

- Follow a routine. Doing things at the same time each day or week can reassure you and stimulate your memory.
- Pin notes up in prominent places if there are things you need to do regularly, like locking the doors at night or putting out the recycling.
- Carry a notebook to write down daily tasks.
- Put important things, like glasses or keys, in the same place every time so that you know where to find them.
- Ask questions if you don’t understand or have forgotten what was said.
- Put important telephone numbers by the phone.
- Stay in touch with family and friends rather than isolate yourself.
- Carry a help card that can let people know you have dementia and includes the contact details of a chosen contact.
- Make sure other people don’t take over – they may think they’re helping by doing as much for you as possible. (AgeUK)

6.2.3 Doctor patient relationship

Trust is a fundamental element in a doctor-patient relationship. Pronouns may create empathy and a closer relationship with the reader, but they may also reinforce the asymmetrical relationship that exists between expert and layman, as in the following example where exclusive *we* refers to doctors.

- (28) Having a high one-off blood pressure reading may not be of much concern because we know that blood pressure can fluctuate throughout the day and even between days. (*patient.info*)

The *patient.info* website frequently explicitly forefronts the role of the expert by underlining the use of technical terms by specialists (29) or a specific reference to the professional status of the addresser *my patients* (30).

- (29) Healthcare professionals sometimes call high blood pressure ‘hypertension’. (patient.info)
- (30) Lots of my patients complain of putting on weight after the menopause (patient.info)

This demarcation between the doctor and patient is not so noticeable in the *BUPA* website as shown in the paragraph about advice giving, though at times it does emerge:

- (31) Doctors used to advise bed rest, but now we know it can make back pain worse. (BUPA)

AgeUK also adopts a less marked position of the doctor, though it maintains the authority of the professional. Using an example from the questions on blood pressure again, we can see the answer consists in a tag question, as if it were a natural response in a conversation/dialogue between doctor and patient, showing empathy and understanding. However, it then continues in a more formal, impersonal manner, as well as adding a strong warning, *the silent killer*.

- (32) Wouldn't I know if I have high blood pressure?
You'd have thought so, wouldn't you? However, more than 5 million people don't know that they suffer from hypertension – this is what gives it its other name: the silent killer. (AgeUK)

6.2.4 Personalization

In this context the term personalization is not intended in the sense of the way the writer addresses the reader to create communicative immediacy, but rather how the information itself is presented in the form of personal narratives. In other words, people, peers, are talking about their experiences of living with a particular condition, explaining how they cope and perhaps giving advice. The asymmetrical relationship which naturally occurs in specialized discourse between expert and layman can lend authority to the information, but as Gülich says “the so-called non-experts (in this case the patients) are also experts of a kind” (2003: 258) and provide their experiential knowledge.

However, very few personal stories about age-related conditions are actually presented in the websites. *BUPA* has a video of a daughter talking about her experience of her father having dementia, whereas *AgeUK* has some videos of patients with depression and dementia, in which people

give their first-hand accounts of the condition, describing their difficulties, feelings and offering solutions or advice. They talk openly, realistically but also positively about what it is like to live with these socially alienating conditions.

- (33) People do ask me, people do ask how does the dementia affect me now and I suppose one way of describing having it is to use the analogy of the weather. Most days are sunny days for me and I maintain a clear outlook and life is pretty good, but other days it's a bit cloudy and I'll come in and out of being able to function effectively. (AgeUK)

The *AgeUK* website also presents an interview with Prunella Scales, a very popular actress well-known to the British public, who suffers from dementia, and her equally famous actor husband, who talk about how they manage to cope. This may encourage people with a diagnosis of dementia to be more open themselves and not feel so alone.

Somewhat surprisingly, the *patient.info* website, where the presence of the medical professionals is perceived most forcefully, provides a forum with numerous threads that the visitors may open as they wish. There is no interference or mediation on the part of the doctors and advice, sympathy and encouragement are freely exchanged.

6.3 Multimodality

Although the focus of the study is on the communication of health information to the elderly, within the context of online communication multimodality is also an important feature (Kress 2010). Different visual and auditory modes can provide opportunities for more effective meaning-making, thus facilitating the transfer of knowledge. The use of multimodal affordances – diagrams, visuals, videos – can, in fact, have both cognitive and communicative purposes.

In the two medical websites images in the form of diagrams are used to help with anatomical descriptions, whilst infographics clearly and promptly convey dietary and exercise schemes or symptoms to recognize in emergency situations, as for example in the case of a stroke or heart attack. Where videos were used in the *patient.info* and *BUPA* websites, it almost always involved a doctor talking to the camera, which simulates a visit to his surgery. The information was, however, often very similar to that given in the written text. These websites also use basic animations to explain how certain conditions, such as osteoporosis, diabetes, breast cancer, develop or

tests are carried out. In contrast, videos are used in *AgeUK* to share peer lay information, as discussed in the section above. Interestingly, *AgeUK* also includes recordings of experts being interviewed on the radio, and therefore audio only, perhaps as older people are used to listening to the radio or can focus more clearly on the information without visual distractions.

7. Final remarks

Online communication has to cater for an unknown and heterogeneous audience, of different backgrounds and educational levels, and in the case of the elderly the difficulty of calibrating the level of information, both in terms of the quantity of detail and the depth of explanation, may be accentuated and complicated by age-related issues, such as vision loss or failing cognitive abilities.

Perhaps contrary to expectations, there seem to be very few differences in the strategies adopted to communicate health information for the elderly and for adults, especially as often the elderly visitor will be invited to follow links to pages aimed at the general public. Ageing does not necessarily change the intellectual level of a person, but at the same time researching on the Internet makes heavy demands on the reader (Johnson 2007) and the findings of this study suggest that little adaptation is made to facilitate understanding, perhaps excluding those who most need the information.

Almost all the cognitive and communicative strategies outlined in the theoretical framework were adopted by the websites. The only exception was metaphor, which was used very rarely as either a cognitive or a communicative device. However, the level of information load is much heavier in the medical websites than in *AgeUK*, which reflects their different origins and functions. The 'medical' websites tend to give very detailed, technical information, often including what might at times be considered unnecessary information from the point of view of empowerment and being able to take informed decisions. Instead, *AgeUK*, rather than imparting specialized knowledge, wants to raise awareness of problems that may arise in ageing and how they can be avoided, or at least managed. It takes a much broader view of the issues under consideration focusing on the well-being and quality of life of the person, which are, in any case, fundamental aspects of health.

As we have seen, the three websites analysed in the study show different approaches and different information loads which may, each in its own way, meet the varying expectations and needs of readers. Some readers

may just want to find general information about health issues without having a 'tutorial' on human anatomy, whilst others may want to know the whys and the wherefores of a medical condition out of curiosity or to have a better understanding. The websites also propose different doctor-patient relationships, which once again may satisfy very diverse readers. On the one hand, the older generation may be used to the traditional view of the doctor as the expert and be willing to accept his advice and decisions; they may even expect it. On the other hand, many older people actively take part in the social media world of today and therefore may expect more peer, lay knowledge to be available, as well as want the possibility to share and exchange information and experiences.

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