

Lexical formality as a means of ideology in a medical guideline:  
a critical discourse analysis

BA Thesis  
Ville Rissanen

University of Jyväskylä  
Department of Language and Communication Studies  
English  
November 2020

# JYVÄSKYLÄN YLIOPISTO

<b>Tiedekunta - Faculty</b> Humanistinen-yhteiskunnallinen tiedekunta	<b>Laitos - Department</b> Kieli- ja viestintätieteiden laitos
<b>Tekijä - Author</b> Ville Rissanen	
<b>Työn nimi - Title</b> Lexical formality as a means of ideology in a medical guideline: a critical discourse analysis	
<b>Oppiaine - Subject</b> Englannin kieli	<b>Työn laji - Level</b> Kandidaatin tutkielma
<b>Aika - Month and year</b> Marraskuu 2020	<b>Sivumäärä - Number of pages</b> 22
<b>Tiivistelmä - Abstract</b> <p>Kansalliset hoitosuositukset ohjaavat eri sairauksien hoitokäytänteitä sekä jakavat näyttöön perustuvaa tietoa, jota voivat hyödyntää sekä hoitohenkilöstö että potilaat. Hoitosuosituksissa käytetty kieli voi kuitenkin olla vaikeaselkoista, kun sairauksiin viitataan erikoisalakohtaista sanastoa ja rekisteriä hyödyntäen. Hoitosuositukseen kohdistuu myös valtasuhteisiin liittyviä seikkoja, kuten ideologisia painotuksia siitä, mihin suosituksilla pyritään vaikuttamaan. Englannissa hoitosuosituksista vastaa National Institute for Care and Excellence, joka on itsenäinen toimija, mutta vastuuvollinen sosiaali- ja terveysministeriölle.</p> <p>Tutkielman tarkoituksena oli tutkia, millaista sanastoa englantilaisessa silmänpohjan ikärappeuma - silmänsairauden hoitosuosituksessa käytetään. Tutkielman tavoitteena oli selvittää, kuinka yleisiä hoitosuosituksessa käytetyt substantiivit ja adjektiivit ovat korpusfrekvenssien perusteella, ja millaisia päätelmiä frekvenssien perusteella voidaan tehdä suosituksen taustalla olevista voimasuhteista, kuten ideologioista.</p> <p>Tutkielma toteutettiin monimenetelmällisesti siten, että internetissä julkaistussa aineistossa esiintyneet substantiivit ja adjektiivit numeroitiin Oxford English Dictionary -sanakirjan frekvenssiluokkien mukaan, jonka jälkeen aineiston tilastollista merkittävyyttä suhteessa sanojen yleisyyteen verrattiin aineisto-osittain vertailuotokseen. Hypoteesi perustui sanojen harvinaisuuden ja muodollisuuden yhteenliittymään. Tilastollisia tutkimustuloksia hyödynnettiin tämän jälkeen kriittisen diskurssianalyysin mukaisessa kolmiportaisessa analyysivaiheessa.</p> <p>Tutkimustulosten perusteella vaikuttaa siltä, että silmänpohjan ikärappeuma -hoitosuositus sisältää tilastollisesti merkittävässä määrin muodollista sanastoa. Tämä voi johtaa siihen, että suosituksen ymmärrettävyys pienenee. Taustalla saattaa olla institutionaalinen ideologia, jolla pyritään osoittamaan sairauden hoidon ensisijaisuus, ei niinkään potilasnäkökulman huomiointi. Jatkotutkimusten olisi hyvä kiinnittää huomiota hoitosuositusten taustalla oleviin voimasuhteisiin, joita esiintyy sekä silmänsairauksien hoidon rahoitukseen liittyvissä että potilasnäkökulman laajemmin huomioivissa diskursseissa.</p>	
<b>Asiasanat - Keywords</b> Medical guidelines, critical discourse analysis, ideology, formal language, frequency	
<b>Säilytyspaikka - Depository</b> JYX	
<b>Muita tietoja - Additional information</b>	

## Table of Contents

1 INTRODUCTION.....	3
2 BACKGROUND INFORMATION .....	4
2.1 National Institute for Health and Care Excellence .....	4
2.2 Age-related macular degeneration .....	4
3 THEORETICAL FRAMEWORK .....	5
3.1 Critical discourse analysis.....	5
3.2 Medical discourse.....	7
3.3 Genre and register in medical discourse.....	9
4 THE PRESENT STUDY .....	10
4.1 Aim, objectives and research questions .....	10
4.2 Data.....	10
4.3 Methods .....	11
5 RESULTS AND ANALYSIS.....	12
5.1 Quantitative results.....	12
5.2 Textual analysis .....	13
5.3 Discursive analysis.....	15
5.4 Social analysis .....	16
6 CONCLUSION .....	18
BIBLIOGRAPHY .....	20
Table 1. Frequency bands of Oxford English Dictionary .....	12
Table 2. Results of Welch's <i>t</i> -test for mean scores of frequency .....	13

## 1 INTRODUCTION

Medical guidelines that are provided by national health institutions often use medical language that is important for many but easy to understand for few. Not only do medical personnel make use of the guidelines, but also patients may look in them for essential information with regard to the care of their illness. Guidelines are intended to act as procedural standards upon which medical practice in healthcare should be based and managed. As such, they are part of national health policies, which have a major influence on clinical protocols and actions of both professional and non-governmental groups. (Wilson, Pope, Roberts & Crouch, 2014: 138-139.) In England, healthcare guidelines are provided by the National Institute for Health and Care Excellence (NICE 2018b).

Medical language has been studied in linguistics for a long time, yet it seems that most of the studies have either concentrated on spoken doctor-patient interactions or on written genre-specific language of medical discourse (Fleischman 2015: 473). The latter direction is of particular interest nowadays, since the proliferation of online communication has resulted in, for example, medical guidelines being published on the internet to an easy availability. However, there may be ambiguity as to the extent of how much this progress has actually changed the disease language of yore to more modern manifestations of illness language, which would take more into account the viewpoints of patients in healthcare practice (Fleischman 2015: 475).

The purpose of the thesis is to investigate the formality of the lexicon in a medical guideline for an eye disease called age-related macular degeneration. In that regard, the question is turned towards the level of formality and whether it is of such nature that it would actually appear to prevent some users from comprehending it. If that is the case, then, would it be possible to formulate explanations for such word choices in the guideline and infer ideological reasons behind them? These main questions will be studied by using the framework and methods of critical discourse analysis, in which

linguistic features can be combined with social theories, especially those around ideologies and power relations (Fairclough 1995: 97).

It is to be hoped that the present study could reveal new insight into the domain of eye healthcare in so far as its use of specialist register as part of medical discourse is concerned. This seems an important aspect not only from a professional healthcare perspective but also from the vantage point of patients, whose voice should be included in a dialogue of treatment and care more prominently (Ordonez-Lopez & Edo-Marza 2016: 2). Furthermore, the role of a medical guideline as an ideological player in medical discourse seems significant to consider as to its influence on eye healthcare services in a wider context.

## **2 BACKGROUND INFORMATION**

### **2.1 National Institute for Health and Care Excellence**

The National Institute for Health and Care Excellence (NICE) provides governance for healthcare in England. It focuses on the availability and quality of treatments and care that are provided by the National Health Service (NHS) and other public health and social care services. It is a non-departmental public body established through primary legislation in the Health and Social Care Act 2012. Operationally, NICE is independent of the government, but it is accountable to the Department of Health and Social Care, which acts as a sponsor to it. In particular, NICE provides evidence-based guidance for healthcare practitioners. Quality standards and performance metrics for health provision are among the features that are also being developed through its means. Any guidance by NICE is intended for professionals and patients alike. (NICE 2018b.)

### **2.2 Age-related macular degeneration**

The focus of the present study is on the NICE guideline for an eye condition called age-related macular degeneration (AMD). AMD is the main cause for vision

impairment in high-income countries. Its prevalence is higher among older adults, as it is closely associated with aging. There is no known definite cure for any form of AMD, though the progress for worse of its neovascular form may be delayed by special, invasive eyecare treatments. AMD causes irreversible damage to the macula, which is part of the retina that is needed for central vision. Typically, a patient with moderate to severe AMD cannot read without optical aids. In case of acquiring vision impairment, it is recommendable to refer the patient to low vision rehabilitation services at an early stage to alleviate the repercussions caused by vision loss. (WHO 2018.)

### **3 THEORETICAL FRAMEWORK**

#### **3.1 Critical discourse analysis**

Critical discourse analysis (CDA) is a diverse theoretical and analytical framework that operates by bringing together methods of social science and linguistics. Blommaert (2005: 25) has argued that the focus of critical discourse analysis can be found in the crossroads of discourse and social structure, in particular how the former relates to discourse patterns such as ideologies and power relations. In CDA these relations are viewed as challenging, and therefore the social dimension of language use should closely be examined. Additionally, methods of moral and political analysis are often applied to create suggestions for further recommendations on the topic. Furthermore, it is somewhat clear that CDA has an interdisciplinary perspective on conducting analysis, even if different factions of CDA may cite a variety of theoretical standpoints and use wide-ranging or differing approaches (Benwell & Stokoe 2010: 105). Nevertheless, both Blommaert (2005: 26) and Fairclough (1992: 23) have stated that, irrespective of its social stance, CDA ought to be stationed in the field of linguistics; its analyses ought to be performed with linguistic tools provided by pragmatics and discourse analysis.

According to Fairclough (1992: 33), the methodological framework of CDA can be constituted by using a three-dimensional one for analysis in the following manner:

1. *discourse as text*
2. *discourse as discursive practice*
3. *discourse as social practice.*

The first dimension concentrates on linguistic features, such as vocabulary, grammar, cohesion and text structure in its analysis. The second dimension is about discursive practice, which defines discourse as products that are manufactured, distributed and then used in society. Linguistically, discursive practice is interested, for example, in speech acts and intertextuality. Finally, the third dimension relates discourse to social practice. In that regard, the focus is on how, for example, ideology and hegemony may affect and transform the discourse in its social context. (Blommaert 2005: 29.) However, these dimensions within the framework may in reality overlap, and there is ambiguity as to exactly which elements of texts and discursive or social practice should be subjected to analysis (Fairclough 1995: 9).

In fact, CDA has been criticised for its stance for a number of reasons. Widdowson (2004: 109-110) has noted that textual analyses of CDA may feature presupposed or biased notions of picking and choosing apt linguistic features for interpretation. For example, parts of grammar features may be left out of analysis as there are no clear, systematic principles on which to conduct research. Similarly, Blommaert (2005: 35) has pointed out how Faircloughian CDA appears to base its foundations on only one theory of language, that of Hallidayan systemic-functional linguistics. In doing so, having potentially restricted methods may result in leaving out critical discursive points for both textual and social analysis. However, the present study accepts that there may be possible limitations to the chosen three-dimensional theoretical framework, and instead aims to present a clear enough focus on the lexical formality in research data in order to be as plausible as possible while using this particular study design.

Nevertheless, in terms of social practice, it appears that CDA can be used for studying power relations in detail, for example, in institutions. Van Dijk (1998: 172-173) has stated that institutional ideologies make use of a concerted effort to organise their shared institutional goals for their own benefit. This may take place structurally, strategically and practically as a means of promoting their concerns in ways that are deemed "right" to the institutions in question. Consequently, it is possible that NICE guidelines are realisations of an institutional ideology that aims to control the eyecare health practice through its contribution to medical discourse. Specifically, the use of communication methods can be seen as a vital means of solidifying the message of an institutional ideology and its inherent domain (van Dijk 1998: 198). In that regard, the formality of language being used in the NICE guideline for AMD may turn out to be revelatory as for its ideological realisation.

### **3.2 Medical discourse**

According to Fairclough (1989: 2), typical interactions between doctors and patients often have the doctor telling the patient how and why the treatment will be administered. This kind of authority and hierarchy is seen as normal, and the patient is expected to comply in such circumstances. Furthermore, it is possible to conceive that procedures of this kind are based on assumptions that are actually manifestations of ideologies. These ideologies can be found in the conventions in which both healthcare professionals and patients are positioned. As a consequence, it can be deemed that those who control medicine also dominate the ideology of medicine as a social institution (Fairclough 1989: 61).

During the recent decade or two, patients have become more aware of potential treatment options in their own medical matters, for instance, by having direct access to relevant information on the internet, such as NICE guidelines. However, this progress may not have changed the fact that performing a medical procedure of any kind is still entirely dependent on having the required formal qualifications to do so. Therefore, the role reserved for the patient can be viewed of being as that of the client,



since no client can truly be part of a dominant institution, informed consent notwithstanding. (Fairclough 1989: 63.) Similarly, Gleeson (2009: 220) has stated that the dominant role of the practitioner continues to epitomise the hierarchical system in medicine.

Another aspect of this perceived detachment of the patient is conveyed by the formality often found in medical language. Fairclough (1989: 68) has suggested that, because medical discourse can be demanding and difficult to understand, it can leave many patients frightened as they do not have relevant skills to follow the professional discourse. In that regard, formality can be seen both as restricting access to knowledge and producing unwanted reverence. This kind of formality can also be detected in the NICE guideline for AMD, especially in its use of lexicon, as it seems to be rife with terms quite strictly confined to ophthalmology. In this context, then, medical discourse can be seen as fostering ideological domains that serve to protect the power of certain professional groups (van Dijk 1998: 215).

People who work in the field of medicine are often thought of being accustomed to using medical terms and jargon, because, traditionally, in the culture of medicine the ability to convey technical information in a condensed and quick manner has been deemed important. However, healthcare professionals may not always be aware of how much of the medical jargon is being understood by the patients. (Castro, Wilson, Wang & Schillinger, 2007: 92.) According to Ordonez-Lopez and Edo-Marza (2016: 2), there is a growing need to build more dialogue into medical discourse and create integrated healthcare services that take individual patient needs more into account. However, it seems that if patient-centred healthcare were to succeed, it would require changes to established communication styles, both in written and oral form. In that sense, the availability of understandable healthcare information online seems to be an issue that should be directly addressed by those in institutional power, as they represent the groups that are in control of medical expertise and resources (van Dijk 1998: 152).

### 3.3 Genre and register in medical discourse

Medical language is often described as being abstract, primarily dealing with diseases instead of patients or their experiences. The reason for using such language lies behind the fact that western medicine first and foremost emphasises fighting against diseases. In doing so, medical language distances itself from the language of illness that patients may have on their own. (Fleischman 2015: 475-476.) In such cases, there is often a medical paradigm in use, which focuses on treatments as an end point, while overriding other options, such as therapies in chronic conditions (Ferguson 2007: 86).

Medical guidelines often employ a directive genre, in contrast to argumentative or expository one, as their mode of communication. They aim to provide healthcare professionals with clear advice how to best utilise in practice recommendations based on evidence-based research. As such, medical texts often resort to using specialist registers that require professional knowledge of a field-specific terminology. Imperatives and obligation modals count as typical linguistic features for a directive purpose. (Biber & Conrad 2009: 68.) In addition, the sociocultural context in which medical texts such as guidelines are produced seem to play an important role in defining how genre conventions are realised in texts. (Gotti 2016: 12-13.)

Typically, specialist medical register makes use of features such as nominalisation, according to which nouns, rather than verbs, are used to describe illnesses. Diseases may similarly be lexicalised as things, or names in particular, while leading into language use that can belie their actual complex, dynamic processes. (Fleischman 2015: 490-491.) As a result, it could be postulated that the language of illness and disease is able to tell us how our culture views the relationship between the patient and the pathology (Fleischman 2015: 492).

In terms of lexical formality in specialist register, there is evidence of Latinate words being more frequently used than Germanic words in formal style of English (Levin, Giles & Garrett 1994: 265). In particular, Latinate rather than Germanic words can be found in contexts that are more formal and specialist by nature (Bauer 1998: 44; Gee

2014: 60). Furthermore, Gee (2014: 61) has stated that the predominantly Latin-based vocabulary of specialist texts can create problems of understanding for people with lower education levels or who may be less skilled or motivated to read texts of such calibre. As a consequence, it seems there is a distinct possibility that the medical guideline for AMD may be part of a specific domain that uses registers familiar to its practitioners but not to the wider public (Biber & Conrad 2009: 34).

## **4 THE PRESENT STUDY**

### **4.1 Aim, objectives and research questions**

The aim of the present study is to investigate what kind of lexicon is used in the NICE guideline for age-related macular degeneration. The objectives of this study are to scrutinise the formality of word choices, nouns and adjectives in particular, and to examine whether possible implications for their use can be attained in relation to ideological reasoning behind them. Therefore, the research questions are as follows:

- How common are the nouns and adjectives used in the guideline in terms of their corpus-based frequency?
- What kind of implications do the frequency rates create in view of power relations, such as ideology, in the guideline?

The hypothesis is that the lower the mean scores of nouns and adjectives are according to the frequency bands of Oxford English Dictionary, the more formal the nouns and adjectives are in data.

### **4.2 Data**

The research data were comprised of the NICE guideline for AMD, which can be accessed online at <https://www.nice.org.uk/guidance/ng82>. (NG82 2018). The contents of the guideline could be used “for personal use, study or personal research” outside the United Kingdom as stated under Notice of Rights (NICE 2018a). Therefore,

no permission for the use of data was required. A PDF file of the guideline was used as a primary source of data, of which the *Overview* and *Recommendations* sections (pages 4–16) were to be analysed in detail. Although the standard mode of online presentation for the guideline is an interactive flowchart, multimodal features were not studied, as the main interest was on lexical features. Therefore, the focus was on the frequency of nouns and adjectives, since they are more common than verbs, for example, in the formal use of English (Heylighen & Dewaele 1999).

### 4.3 Methods

The implementation of the research was based on using a mixed methods study design that includes both qualitative and quantitative methods, in order to improve the accuracy of results as well as further develop the methods of analysis (Denscombe 2010: 139, 142). The aim was to show how formality is present at a word level in the guideline by using both statistics and tools of CDA analysis. As for statistics, Welch's unequal variances *t*-test was used to test whether the corpus-based frequency findings had statistical significance, as it was able to reveal the mean scores and standard deviations between two unpaired samples of population being compared (Levon 2018: 146). Statistical significance was set at the  $p \leq 0.05$  level. As a control sample, a newspaper article from The Guardian on mental health (My working week 2019), and its frequency data of nouns and adjectives was used to test the guideline samples.

Furthermore, in order to find out the exact nature of the lexicon in data, the online Oxford English Dictionary (OED) and its feature of frequency bands were utilised as part of quantitative data analysis. There are eight frequency bands available (see Table 1 below), according to which modern English words are divided based on their frequency per a million words (OED 2018). First, every noun and adjective in data were marked for their frequency in OED. Then, the frequency band of each noun and adjective was tested section by section as mentioned above. An online tool called QuickCalcs was utilised to perform the task. The hypothesis to be tested here would follow the notion that Germanic words, which are more frequent in English, are

proportionally less formal than Latinate ones (Gee 2014: 60). However, the nouns and adjectives of a medical guideline that consists of special register would probably be expected to feature more in OED bands of less frequent rates. Therefore, the hypothesis was that the lower the mean scores of nouns and adjectives were according to the frequency bands of Oxford English Dictionary, the more formal the nouns and adjectives were. The null hypothesis was that there was no statistical significance between the variables.

Table 1. Frequency bands of Oxford English Dictionary

Band	Frequency per million words	% of entries in OED
8	>1000	0.02%
7	100 - 999	0.18%
6	10 - 99	1%
5	1 - 9.9	4%
4	0.1 - 0.99	11%
3	0.01 - 0.099	20%
2	< 0.0099	45%
1	-	18%

## 5 RESULTS AND ANALYSIS

### 5.1 Quantitative results

The aim of quantitative analysis was to find out how common the adjectives and nouns in data were based on their corpus frequency. As a result, the achieved overall number ( $n=1027$ ) was inclusive of all nouns and adjectives that appeared with a frequency rating in OED, repeated words included. However, in each section of data there were nouns and adjectives that could not be found in OED and, as a consequence, they had to be left out. For example, there were cases in which derivational affixes had been added to words, such as *fibrovascular*, *intraretinal*, or *choroidal*, which made them unavailable in OED. Words such as *vitelliform* or *vasculopathy* were other examples of

having no result in OED. It appeared that most of the omitted words might not have been common in terms of their origin, as they were quite clearly specialist words.

As can be seen in Table 2 below, results of the Welch's *t*-test showed at the 0.05 level of significance a statistically extremely significant mean difference of the frequency of nouns and adjectives in full data ( $n=1027$ ) and Sections 1.1, 1.4 and 1.5. There was a statistically significant mean difference in Introduction and a not quite significant mean difference in Section 1.7. The remaining three Sections did not reach statistical significance. Overall, it should be noted that the mean score for full data ( $M=6.03$ ,  $SD=0.98$ ) was indicative of the guideline being at the crossroads of OED frequency bands featuring more either everyday or specialist words, which occurs in and around band 6 (OED 2019).

Table 2. Results of Welch's *t*-test for mean scores of frequency

	<b>M</b>	<b>SD</b>	<b>SEM</b>	<b>P-value*</b>	<b><i>n</i></b>
<b>Control sample</b>	6.38	0.71	0.05		181
<b>Full data</b>	6.03	0.98	0.03	<.0001	1027
<b>Introduction**</b>	5.96	1.12	0.16	0.0146	50
<b>1.1</b>	5.41	1.22	0.10	<.0001	149
<b>1.2</b>	6.42	0.73	0.06	0.5866	158
<b>1.3</b>	6.27	1.04	0.20	0.5997	26
<b>1.4</b>	6.01	0.98	0.08	0.0002	140
<b>1.5</b>	6.00	0.90	0.05	<0.0001	295
<b>1.6</b>	6.23	0.82	0.11	0.2019	61
<b>1.7</b>	6.22	0.79	0.08	0.0951	103
<b>Terms</b>	6.22	0.64	0.09	0.1469	45

*Note.* Abbreviations: M=mean score, SD=standard deviation, SEM=standard error of the mean, P-value=probability value,  $n$ =sample size. \* $P < 0.05$ . \*\*Introduction includes all sections before 1.1.

## 5.2 Textual analysis

To proceed further and add to the groundwork of quantitative results, there are some interesting factors to note at a textual level between sections. Starting with three of the most formal sections, Section 1.1 features frequency bands 3 and 4 by using, among

others, the following nouns and adjectives: *drusen*, *serous*, *pigmentary*, *micrometre*. In Section 1.4 there are e.g. *micropsia*, *fluorescein*, *macular* of the bands three and four in use, and, similarly, in Section 1.5 the following ones: *intraocular*, *ophthalmologist*, *photodynamic*. Word choices of this kind appear to attest to Gee's (2014: 60) notion of specialist texts being more inclined to include Latinate words. Furthermore, they seem to be wordings of specialist register that may be exclusive to a wider audience, but apposite towards practitioners within the field (Biber & Conrad 2009: 34). It also seems plausible to think of such nouns and adjectives being used in a biomedical fashion that is more typical to users of specialist medical language (Fleischman 2015: 474).

As for the least formal nouns and adjectives, they appear in Sections 1.2 and 1.3, which predominantly feature frequency bands 6 and 7. The least formal Section 1.2 seems to avoid using specialist medical language choices based on word frequency, but it does resort to using nominalisation in places (and so do all the other sections as well). To refer to Fleischman's (2015: 490-491) definition of both lexicalisation and nominalisation in medical language, the way Charles Bonnet's syndrome is first referred to by its term in Section 1.2 can be seen as lexicalising it as a mere name, instead of giving more ample information as regards its true complexity; moreover, it is then almost entirely explained by a list of conditions that are nominalised, that is, explained as nouns.

Another interesting factor that concerns nouns in particular is the widespread reference to drug ingredients in Section 1.5, as pharmacological management of AMD is discussed. However, since *ranibizumab*, *pegaptanib* or *aflibercept* are not found in OED, they were omitted from quantitative analysis. Nevertheless, bearing in mind that the mean score for this section was 6.00, it appears to be even more formal in reality, if omitted words are taken into account in terms of their understandability to the general reader. The usage of such terms is somewhat clearly an option taken from a biomedical perspective that is common among the professional specialists, who most likely have chosen the terms (Fleischman 2015: 474).

### 5.3 Discursive analysis

As for discursive elements, there are a number of sections in the guideline that seem to represent the medical ideology foregrounding and controlling its own premises in the manner van Dijk (1998: 215) has described. For instance, the sections featuring the most formal words per frequency appear as primarily intended for eye health care professionals. That is, they resort to using language more akin to specialist ophthalmology when describing how to classify AMD (section 1.1, *M*: 5.41); perform diagnosis and referral (section 1.4, *M*: 6.01); or execute pharmacological management of AMD (section 1.5, *M*: 6.00). These sections seem to have been produced with the aim of providing evidence-based recommendations for those in charge of treating patients with AMD, using a distinctive form of communication to build an activity (Gee 2014: 104). As such, they have features of specialist register, including the use of ophthalmological jargon, which is line with Fleischman's (2015: 475) notion of fighting diseases at the expense of giving precedence over illness talk of the patients.

In contrast, the sections with less formal wordings seem to have a more reciprocal doctor-patient approach in mind. For example, Section 1.2 that deals with more general information and support may still primarily be intended for ophthalmologists, but as the topic of the section deals with the issue of informing the patient about AMD, it seems to utilise wordings more familiar to patients. Frequency bands 6 and 7 are more dominantly represented in this section, resulting in a less formal set of nouns and adjectives among the data. As a result, this section can be viewed as being interested in forming a dialogue with patients (Ordonez-Lopez & Edo-Marza 2016: 2). It is mostly a list of bullet points to consider, using a form of more straightforward presentation. Furthermore, the fact that the whole document has been written with a slightly larger and clearer typeface than usual with readability in mind seems to take into account that some of its readers may have difficulty in reading that is related to central vision loss (Lee & Ponchillia 2010: 775).

What appears to be an important feature throughout the data is the use of the imperative form as a means of giving guideline directions. As such, they are



representative of a directive purpose in terms of their genre conventions (Biber & Conrad 2009: 68). Sections 1.2, 1.4, 1.5, 1.6 and 1.7 extensively feature the imperative form, and they appear to be the ones in which most of the specialist, ophthalmologically minded language use take place. Typically, there is only one sentence in a subsection, and it begins with the imperative form, as in the example of "*Confirm a diagnosis of early AMD using slit-lamp biomicroscopic fundus examination alone.*" in Section 1.4.2. Moreover, Sections 1.2, 1.3 and 1.7 make extensive use of introducing bullet point lists with a single imperative clause. Section 1.1 is notable for its use of a section-long table as a means of emphasising how to classify AMD, which is an example of authoritative chart notes (Wilce 2009: 204). This all makes for rather powerful reading, as the aim seems to be enforcing the recommended guidance to the audience. In other words, it can be seen as an example of an institutional ideology structuring the message according to its own concerns within the specialist domain (van Dijk 1998: 172-173).

## **5.4 Social analysis**

As a final part of the three-dimensional CDA analysis, it is important to consider what is being aimed by the language use and to which discourse it belongs and is connected (Gee 2014: 186). As such, a medical guideline for AMD is part of several other guidelines issued by NICE, which can collectively be described as adhering to medical discourse, as the language used in them are manifestations of medical science and hegemonial power (Wilce 2009: 203). Furthermore, the guideline for AMD can be seen as part of healthcare governance discourse. According to Boivin, Green, van der Meulen, Legare and Meulen (2009: 913), the aim of healthcare governance discourse is to ascertain that, in practice, clinical decisions are made and resources are allocated on evidence-based research. In this context, it is interesting to note that NICE as an institution is independent from the government, yet it is funded by it (NICE 2018b). This may be a cause for concern with regard to autonomy.

Furthermore, it appears that medical guidelines have gradually also begun to assimilate informed consent discourse, in so far as the viewpoints of patients are taken into account. However, as the level of shared decision making as described in the guideline is limited at best (Section 1.2 is the only section directly offering information and support to patients), most of the progress in that sense may not have taken place yet. As such, there seems to be no real answer to the call of including patients in a more efficient dialogue for their own care and treatment options (Ordonez-Lopez & Edo-Marza 2016: 2). This may be viewed as a strategic effort from NICE to follow the appropriate lines of its domain and choose not to promote any extensive form of dialogue with the patients.

Moreover, it seems that the guideline for AMD can be thought of being part of professional care discourse, which according to Boivin and others (2009: 911) values the responsibility of healthcare professionals as main decision makers in a clinical setting, with the role of patients reserved to that of clients. This appears to be in line with Fairclough's (1989: 63) assertion that, in a dominant healthcare institution like NICE, there is a secondary part available for the patient, as far as decision making is concerned, since professionals control the order of practice. This order can be seen in the guideline for AMD, as it reads like a procedure, one section after another. Moreover, van Dijk's (1998: 172-173) description of ideological domains being fostered by means of discourse in order to protect the professional power seems plausible in this context as well.

The question of politics is another facet that should be considered in this context. Medical guidelines can be seen as advocating for the minimum of care, since there are no endless funding or extensive resources available in healthcare (Boivin et al. 2009: 911). The intertwined nature of professional, political and individual interests may not be easy to open, but it appears to affect the guideline for AMD as well. For example, if patients are seen as consumers of care, it can perhaps be postulated that they may not be satisfied to learn that there is no cure for AMD (WHO 2018) or that there may be limited resources allocated by the government to NHS practice. Therefore, it is possible that consumer advocacy discourse as a form of political representation could

result in better outcomes for all included parties (Boivin et al. 2009: 911). However, allusions to this kind of discourse seem non-existent in the guideline.

Similarly, issues of healthcare funding discourse can hardly be detected in the guideline, apart from pharmacological management, as Section 1.5 clearly indicates which drug ingredients to use in treatment, with possible discounts available as per NHS protocol. Contextually, drug names or companies are omitted from the text, although the latter are euphemistically referred to as *manufacturers*, yet their role in eye healthcare expenditure may be substantial. But, as Fairclough (1989: 61) has stated, those who control medicine also appear to dominate the ideology of medicine and may choose to include information to their liking in medical discourse.

## 6 CONCLUSION

The investigation demonstrated that the nouns and adjectives in the NICE guideline for AMD are, as a whole, less common in terms of their corpus-based frequency rates. Consequently, it may be inferred that they are more formal. In addition, the frequency rates seemed to create several implications for power relations such as ideology. The methods of a three-dimensional critical discourse analysis, combined with statistical analysis, were able to reveal the following findings as a result of the present study.

First, it appears that the language of the guideline for AMD is formal to a point of statistical significance. This may cause difficulty of comprehension among its readers, who are part of the general public, as the language used appears to belong to a domain that uses specialist register (Gee 2014: 61; Biber & Conrad 2009: 34). Second, the domain of ophthalmology can be deemed to foster its own professional power and ideology through its use of lexical formality in the guideline. The role of patients continues to be that of clients to a large degree in the manner described by Fairclough (1989: 63), although there are a few elements of shared decision making to be found in the guideline. Third, it appears there are several mutually not exclusive options as to which discourse the guideline is part of, but as a whole, it belongs to medical discourse

that is described by Fleischman (2015: 475) as emphasising the language of disease by the professionals at the expense of talk of illness by the patients.

Of course, reliability and validity of the present study may not be quite enough to warrant all of the aforementioned claims, but the small-scale research process has been conducted as unequivocally as possible, and it should be reproducible to a large degree. More depth in analysis could have possibly been achieved by studying additional word classes, however. This could have made the generalisability or transferability of the findings even stronger. Nevertheless, the role of statistics has already added to the integrity of this mixed methods study. Future studies should pay more attention to whether cited sources are in fact focussed on oral or written forms of medical discourse, since they have distinctive features. Furthermore, as the online presentation of the guideline is primarily an interactive one, it could have been possible to conduct a multimodal analysis in the first place. It would have been interesting to study, for example, how the usability of multimodal features makes the guideline appear to the professionals and patients alike.

Additionally, there may still be other avenues to be sought in terms of critical discourse analysis, since the level of analysis was kept at a moderate level in this study. For instance, the role of eye healthcare funding and the ways in which a medical guideline is connected to it would be an interesting one for further research. In doing so, there could be perhaps additional elements of institutional ideology and hegemony revealed that were left untouched this time. Likewise, as the integration of patients into the decision-making process in healthcare is encouraged, it should be studied in more detail in discourse studies. After all, on the basis of this concise study alone, there is a lot to be studied in the field of medical guidelines in terms of their discourse and ideologies.

## BIBLIOGRAPHY

### Primary sources

My working week. (2019). My working week: 'A woman wants to die. As a social worker, I help her see that life matters.' A feature article. *The Guardian*. Retrieved from <https://www.theguardian.com/society/2019/apr/15/woman-wants-die-social-worker-help-life-matters> (15 April 2019).

NG82. (2018). NICE guideline for age-related macular degeneration. *National Institute for Health and Care Excellence*. Retrieved from <https://www.nice.org.uk/guidance/ng82/resources/agerelated-macular-degeneration-pdf-1837691334853> (18 November 2018).

### Secondary sources

Bauer, L. (1998). *Vocabulary*. Taylor & Francis Group. Retrieved from <https://ebookcentral.proquest.com/lib/jyvaskyla-ebooks/detail.action?docID=165199> (20 April 2019).

Benwell, B. & Stokoe, E. (2010). *Discourse and Identity*. Edinburgh: Edinburgh University Press.

Biber, D. & Conrad, S. (2009). *Register, genre and style*. Cambridge: Cambridge University Press.

Blommaert, J. (2005). *Discourse: A critical introduction*. Cambridge: Cambridge University Press.

Boivin, A., Green, J., van der Meulen, J., Legare, F. & Nolle, E. (2009). Why Consider Patients' Preferences?: A Discourse Analysis of Clinical Practice Guideline Developers. *Medical Care*. Vol. 47, 8, 908-915. Retrieved from [www.jstor.org/stable/40221995](http://www.jstor.org/stable/40221995) (10 November 2020).

Castro, C.M., Wilson, C., Wang, F. & Schillinger, D. (2007). Babel Babble: Physicians' use of unclarified medical jargon with patients. *American Journal of Health Behavior*. Vol. 31, supplement 1, 85-95. Retrieved from <http://dx.doi.org/10.5993/AJHB.31.s1.11> (April 25 2019).

Dijk, T.A.v. (1998). *Ideology: A Multidisciplinary Approach*. London: Sage.

Fairclough, N. (1995). *Critical discourse analysis*. Harlow: Longman.

Fairclough, N. (1992). *Discourse and social change*. Cambridge: Polity Press.

Fairclough, N. (1989). *Language and power*. Harlow: Longman.

Ferguson, A. (2007). *Expert Practice: A Critical Discourse*. Plural Publishing, Inc. Retrieved from <https://ebookcentral.proquest.com/lib/jyvaskyla-ebooks/detail.action?docID=2051342>. (12 April 2019).

Fleischman, S. (2015). Language and medicine. In D. Tannen, H.E. Hamilton and D. Schiffrin (Eds.), *The handbook of discourse analysis*. (2nd ed.), 470–502. (10 April 2019).

Gee, J.P. (2014). *How to do Discourse Analysis: A Toolkit*. (2nd ed.) New York: Routledge.

Gleeson, P.J. (2009). Medical Interview: A Critical Discourse Analysis Perspective. In Short, M. & Le, T. *Critical Discourse Analysis: An Interdisciplinary Perspective*. Retrieved from <https://ebookcentral.proquest.com/lib/jyvaskyla-ebooks/detail.action?docID=3018296>. (10 April 2019).

Gotti, M. (2016). Variations in medical discourse for academic purposes. In Ordonez-Lopez, P. & Edo-Marza, N. (Eds.). *Medical discourse in professional, academic and popular settings*. Bristol: Multilingual Matters, 9-30.

Heylighen, F. & Dewaele, J-M. (1999). *Formality of language: definition, measurement and behavioral determinants*. Internal report, Center "Leo Apostel", Free University of Brussels. Retrieved from <http://cleamc11.vub.ac.be/Papers/Formality.pdf> (20 March 2019).

Lee, H. & Ponchillia, S.V. (2010). Low Vision Rehabilitation Training for Working-Age Adults. In Corn, A.L. & Erin, J.N. (Eds.) *Foundations of Low Vision: Clinical and Functional Perspectives*. (2nd ed.). New York: AFB Press, American Foundation for the Blind, 760-798.

Levon, E. (2019). Organizing and Processing Your Data: The Nuts and Bolts of Quantitative Analyses. In Litosseliti, L. *Research Methods in Linguistics*. (2nd ed.). London: Bloomsbury Academic, 139-166.

NICE. (2018a). Terms and conditions. *National Institute for Health and Care Excellence*. Retrieved from <https://www.nice.org.uk/terms-and-conditions>. (18 November, 2018).

NICE. (2018b). What we do. *National Institute for Health and Care Excellence*. Retrieved from <https://www.nice.org.uk/about/what-we-do>. (18 November 2018).

OED. (2018). Key to frequency. *Oxford English Dictionary*. Retrieved from <https://public.oed.com/how-to-use-the-oed/key-to-frequency>. (10 March 2019).

Ordonez-Lopez, P. & Edo-Marza, N. (2016). Medical Discourse: Building Bridges between Medicine and Society. In Ordonez-Lopez, P. & Edo-Marza, N. (Eds.). *Medical discourse in professional, academic and popular settings*. Bristol: Multilingual Matters, 1-8.

WHO. (2018). Priority eye diseases. *World Health Organization*.  
<http://www.who.int/blindness/causes/priority/en/index7.html>. (18 November 2018)

Widdowson, H.G. (2004). *Text, Context, Pretext: Critical Issues in Discourse Analysis*. Oxford: Blackwell.

Wilce, J.M. (2009). Medical Discourse. *Annual Review of Anthropology*. Vol. 38, 199-215. Retrieved from <https://www.jstor.org/stable/20622649>. (25 April 2019).

Wilson, Pope, Roberts & Grouch. 2014. Governing healthcare: finding meaning in a clinical practice guideline for the management of non-specific low back pain. *Social Science & Medicine*. Vol. 102, 138-145. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/24565151>. (20 April 2019)