Eye-catching?! Using eye tracking to examine the effect of health literacy on the attention-recall relationship

Meppelink, C.; Bol, N.

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Abstract

The aim of this paper is to investigate how health literacy influences attention to text and illustrations in online health information, and whether such attention is related to recall of information. Sixty-one participants were exposed to either text-only or text-illustrated information. Using eye tracking, we recorded attention patterns on a health webpage after which recall of information was assessed. Results showed that health literacy influenced the attention-recall relationship. For people with limited health literacy, attention to the illustrations was positively related to recall, and attention to the text improved recall of information in the adequate health literate group. Our findings indicate that illustrations play a key role in improving information processing among people with limited health literacy, whereas text is important for people with adequate health literacy. Effective health communication therefore includes both effective text and illustrations that attract attention and improve understanding of the health message.

Keywords: eye tracking, health literacy, information recall, attention, online health information, illustrations.

Eye-Catching?! Using Eye Tracking to Examine the Effect of Health Literacy on the Attention-Recall Relationship

The effectiveness of health information largely depends on people's ability to understand and use information. For instance, understanding and acting upon important health information, such as medication prescriptions, is highly important for adequate disease management. However, almost half of the medical information is immediately forgotten (Authors, 2014a; Kessels, 2003), suggesting that mere information provision does not mean that individuals are able to deal with health information. Especially people with limited health literacy are often not able to adequately use health information. Health literacy is "the degree to which individuals can obtain, process, understand, and communicate about health-related information needed to make informed health decisions" (Berkman, Davis, & McCormack, 2010, p. 16). Moreover, having limited health literacy skills is associated with several health-related drawbacks, such as increased hospitalization rates, more chronic conditions, and less participation in preventive health services (DeWalt et al., 2004). Providing comprehensible health information to people with limited health literacy is therefore vital to scale down these health-related drawbacks.

Online sources are becoming increasingly important for finding health information: The Internet is often cited as the second most important source of health information after the health care provider (Eysenbach, 2003). As people are increasingly expected to take responsibility for their own health, availability of online health information is a positive development. Unfortunately, not everyone benefits from the abundance of such information because selecting, understanding, and applying health information requires sufficient health-related knowledge and skills (Fransen, Van Schaik, Twickler, & Essink-Bot, 2011). People with limited health literacy often lack such knowledge and skills. Moreover, the majority of online health information is difficult to read and understand, which is in particular a problem for people with limited health literacy (McInnes & Haglund, 2011).

To improve understanding of health materials, adding explanatory illustrations to a text can be useful. Illustrations are often used in health information, for example in materials about cancer (King, 2014). Using illustrations is found to positively influence individuals' attention to the health message (Delp & Jones, 1996) and understanding of information presented in the message (Brotherstone, Miles, Robb, Atkin, & Wardle, 2006). Especially people with limited health literacy have shown to benefit from illustrated messages (Authors, 2014b), and the use of illustrations is strongly recommended for this target group (Doak, Doak, & Root, 1996; National Cancer Institute, 2003). Moreover, research has shown that people generally learn better from text-illustrated information compared to text only (Mayer, 2002). Despite the proposed benefits of adding illustrations to health messages, it is unknown how people with different levels of health literacy attend to such health messages and whether attention to the message actually improves recall of information.

The aim of this study is therefore to gain insight into how people with limited or adequate health literacy attend to online health information, and how attention to such information leads to adequate recall of information. We use eye tracking to explore whether attention to certain parts of the health message (i.e., text and illustrations) varies across different levels of health literacy, and whether attention to these parts of the message influences information recall. By using this knowledge, health communicators are better able to create messages that accommodate an important and vulnerable group of health care consumers.

Health Literacy and Attention to Health Information

As people with limited health literacy skills often struggle with online health information, it is important to gain insight into how health literacy influences attention to health information. Yet, studies that focus on both health literacy and attention are lacking. Despite the lack of studies on specific health literacy groups, research conducted in domains other than health literacy, such as literacy, could provide some insight in the possible differences between health literacy groups. For instance, people with limited literacy skills have different attention patterns: On the one hand, they tend to spend more time to the text to make sure not to miss important information, whereas, on the other hand, they are also characterized by skipping large parts of the text due to being distracted by other elements on the webpage (Colter & Summers, 2014).

Nevertheless, studies on attention differences across health literacy levels are scarce, and testing effective formats of health information has not yet been done. Only two recent eye-tracking studies explored attention patterns with regard to health information. These studies revealed that health literacy influences the way in which people attend to nutrition labels (without considering differences in format) (Mackert, Champlin, Pasch, & Weiss, 2013), and that adding illustrations influences how text information is read (without considering differences in health literacy levels) (Morrow et al., 2012). However, none of these studies have provided valuable insights into how people with different levels of health literacy attend to text-only compared to text-illustrated messages. Although previous studies have suggested that illustrated health information is better attended than non-illustrated information (Arora et al., 2013; Delp & Jones, 1996), it is unclear whether the same applies to online health materials. We therefore explore how health literacy influences attention to text and/or illustrations (*RQ1*).

Health Literacy, Attention, and Recall

Information processing starts with message encoding, in which the reader attends to information that he or she considers to be relevant (Lang, 2000; Lang, 2006). All elements of the message that are not encoded will be lost. Consequently, health information can only be recalled if the relevant content is attended to in the first place. Generally, attention and recall are positively related. The more time people spend on textual information, the better the information is recalled (Authors, 2014a). However, health literacy could possibly influence the attention-recall relationship. If new information is poorly attended, processed, or understood, the information will not be stored in long-term memory nor correctly remembered (Lang, 2000). As people with limited health literacy often have difficulties with reading and understanding health information, it could be expected that more attention time does not necessarily lead to more information recall among this group. In contrast, people with adequate health literacy skills are expected to read and understand online health information more easily and thus recall more information when attention increases.

Even though research suggests that the attention-recall relationship might differ for people with different levels of health literacy, little is known about how these people attend to either text or text-illustrated health information, and how such attention, in turn, influences information recall. By exploring the role of health literacy in the relationship between attention to text and/or illustrations and recall of health information, guidelines for limited health literate audiences can be improved and adapted. Since this evidence is still limited, we explore the role of health literacy in the relationship between attention to text and/or illustrations and recall of health information (*RQ2*).

Method

Participants

The ethical committee review board of the research institute approved the study protocol, and all participants provided written informed consent. The data used in the current study were part of a larger eye-tracking study in which data of 97 individuals were collected. Healthy adults between the age of 21 and 88 were recruited via mailings and panels to create a heterogeneous sample in terms of age, gender, and education level. In the experiment, participants were exposed to information about Radio Frequency Ablation (RFA) treatment, which is a relatively unknown treatment for lung cancer involving a needle attached to a generator to destroy tumorous cancer cells. We selected an unknown topic as we wanted to ensure that participants had no prior knowledge to validly measure recall of information. Participants were randomly assigned to one of three experimental conditions: text-only condition, text with text-relevant illustrations conditions, or text with text-irrelevant illustrations condition (for description of the full experiment, see Authors, 2014a).

To explore the research questions proposed in this study, we focused on the participants who had been exposed to the text-only information or text with text-relevant illustrations, resulting in a sample of 67 people. Of the 67 individuals who had been exposed to the text-only information or text with text-relevant illustrations, data of only 62 individuals were available because of missing health literacy (SAHL-D) data ($n = 5$; due to, e.g., missing audiotapes). Furthermore, one participant was identified as an outlier based on the Mahalanobis Distance method, which exceeded the critical value at $p < .001$ (Pallant, 2001; Tabachnick & Fidell, 2007). This participant was therefore omitted from the analyses, leaving a total of 61 participants (M_{age} = 56.26, SD_{age} = 17.95, *range* = 21 – 88) for our analyses. Most participants were female (60.7%), and used the Internet for at least two hours per week on average (M = 15.52, SD = 10.24). Most participants had finished a higher level of education (45.9%), followed by a middle level of education (32.8%), and lower level of education (21.3%). An overview of participant characteristics is presented in Table 1.

<<insert Table 1 here>>

Procedure

Participants were invited and informed about the eye-tracking experiment through email, and completed an online screening questionnaire. Upon giving their informed consent to participate in the study, participants were invited to the research location, where they were asked to sit behind a 22-inch monitor at a distance between 60 and 80 cm. The SMI RED eye tracker was attached to the bottom of the monitor, and participants were instructed to sit comfortably yet still behind the monitor. First, participants' eyes were calibrated. Calibration involved the participant looking at a dot moving across the computer screen. After calibration, participants read the instructions explaining to look at the information on the webpage that was shown to them on the next page. Participants could view the webpage as long as they preferred. Viewing the webpage lasted on average 81.57 seconds (*SD* = 35.98), with a range from 31.90 to 186.13 seconds. Upon finishing viewing the webpage - indicated by pressing the space bar - participants completed an online questionnaire that assessed recall of the information and participants' health literacy status. Additionally, an audiotape was used to record participants' spoken answers when health literacy was administered (see measurement for detailed description of the assessment of health literacy). Participants received 20 euros for participation.

Stimulus Material

For the purpose of this study, we used a webpage of the Netherlands Cancer Institute (NKI) presenting information about RFA treatment. The two versions contained either text-only information about RFA or text with text-relevant illustrations about RFA. The text was kept constant across the two versions. Appropriate illustrations were chosen based on a pre-test among 46 students, resulting in two illustrations that best depicted the information explained in the text. The first illustration visualized RFA treatment involving a needle to create heat and destroy cancer cells, and the second illustration showed a pneumothorax, which is a complication that can occur during RFA treatment. These illustrations were added to the webpage to be compared to the text-only version of the webpage (see Figures 1 and 2 for stimulus material).

<<insert Figure 1 and Figure 2 here>>

Measurements

Health literacy. Health literacy was measured using the Short Assessment of Health Literacy in Dutch (SAHL-D: Pander Maat, Essink-Bot, Leenaars, & Fransen, 2014). The SAHL-D assesses word recognition and comprehension in the health domain. It includes 33 words, for example, “obesity”, “ventricle”, and “palliative”. The administration of the SAHL-D started with a written instruction on the computer screen, followed by an example to practice the procedure. The word ‘hospital’ appeared on the screen, which had to be read aloud. Subsequently, the participant selected the correct meaning of the word ‘hospital’ out of three possible meanings. It was also possible to select the answer ‘I don’t know’. After this example, the actual test began. The pronunciation of each word was recorded with an audio recorder. The audio recordings were coded by a research assistant based on the official coding instructions of the SAHL-D. Thirteen cases (21%) were coded by a second coder. Good interrater reliability was shown by agreement percentages of 80 to 100% and a mean κ of 0.74. For each correctly recognized word or meaning chosen one point was awarded. As a result, health literacy scores ranged from 0 to 66 (SAHL-D total: M = 51.81, SD = 7.93; comprehension: M = 25.78, SD = 4.89; recognition: M = 25.95, SD = 3.96). We used 54.5 as a cutoff score to differentiate between limited and adequate health literacy. This is in line with the optimal cutoff score for this measure (Pander-Maat et al., 2014). Of our 61 participants, 31 (50.8%) participants scored 54 or less (M = 46.48, SD = 7.92), indicating limited health literacy, and 30 (49.2%) participants scored 55 or more (M = 57.47, SD = 2.01), indicating adequate health literacy.

Attention to health information. Participants’ attention to the message was recorded with the eye tracker. Eye-tracking data were collected with a gaze sample rate of 120 Hz per second, recording gaze samples for eye fixations of 80ms or more. The webpage was divided into Areas of Interest (AOIs) to measure attention in terms of total fixation time (in seconds) inside the AOIs. These eye-tracking fixation measures have served as a reliable proxy for people's attention in previous research (Djamasbi, Siegel, & Tullis, 2010). Two AOIs were created for the text information (i.e., one for the upper and one for the bottom text block) and two for the illustrations (i.e., one for the upper and one for the bottom illustration).

Recall of information. Recall of information was assessed based on the Netherlands Patient Information Recall Questionnaire (NPIRQ: Jansen et al., 2008). Questions were based on the RFA text information. To measure the effect of adding text-relevant illustrations, recall questions were based on the information that was represented in both text and illustrations. This resulted in six free-recall questions, such as "During RFA treatment, a special needle is used. How is this needle inserted?" Participants could answer the questions in a textbox provided with each recall question. Scores were allocated based on a codebook and ranged from 0 (*not recalled*), to 1 (*recalled partially*), to 2 (*recalled correctly*). Recall scores were double coded in 21% ($n = 13$) of all cases to assess interrater reliability. Good interrater reliability was shown by agreement percentages of 92.3 to 100% and a mean κ of 0.93. All recall questions were computed into a total recall score (range 0 – 12), and were calculated into percentages of correctly recalled information.

Demographic characteristics. Demographic measures included age, gender, education level, Internet use, and prior medical knowledge (in general, about lung cancer, and about RFA). Education level was categorized into three groups: low (primary education, lower vocational education, preparatory secondary vocational education, and intermediate secondary vocational education), middle (senior secondary vocational education and university preparatory vocational education), and high (higher vocational education and university) level of education. Internet use was measured by the number of hours participants' reported to spend on average per week on the Internet. Prior medical knowledge was assessed using three items asking about how much medical knowledge participants had in general, about lung cancer, and about RFA, to be rated on a seven-point Likert scale (1 = '*no knowledge*', 7 = '*much knowledge*').

Statistical Analyses

The eye-tracking data were exported to SPSS using the SMI BeGaze software. F-statistics and Chi-square statistics were used to test whether age, gender, education level, Internet use, and prior medical knowledge were equally distributed across the two experimental conditions. Since the conditions did not differ on age, $F(1, 85) = 0.57$, $p = .454$, $\eta^2 = .01$, gender ($\chi^2 = 0.01$, $p = .919$), education level ($\chi^2 = 0.01$, $p = .994$), Internet use, $F(1, 85) = 0.83$, $p = .365$, $\eta^2 = .01$, and prior medical knowledge in general, $F(1, 85) = 0.01$, $p = .937$, $\eta^2 = .00$, about lung cancer, $F(1, 85) = 1.74$, $p = .191$, $\eta^2 = .02$, and about RFA, $F(1, 85) = 2.29$, $p = .134$, $\eta^2 = .03$, we did not include any covariates in the analysis. To explore the effect of health literacy on attention to text and illustrations (RQ1), ANOVAs were conducted with health literacy and condition as independent factors and attention to the entire webpage, text information (i.e., total text, upper text block, bottom text block), and illustrations (i.e., both illustrations, upper illustration, bottom illustration) as dependent variables. To examine whether the relationship between attention and recall is moderated by health literacy (RQ2) moderation analysis was employed using Hayes' PROCESS macro Model 1 (Hayes, 2012). All effects were subjected to bootstrap analyses with 5,000 bootstrap samples and a 95% Confidence Interval (CI). Recall of information was the dependent variable, attention (i.e., to the entire webpage, text, illustrations) the independent variable, and health literacy the moderator. The independent and moderating variable were centered to the mean.

Results

Health Literacy and Attention to Health Information

The first question explored the relationship between health literacy and attention to text and/or illustrations in health information (*RQ1*). The amount of total time spent on the entire webpages, with or without illustrations, did not significantly differ across levels of health literacy, $F(1, 57) = 0.01$, $p = .907$, $\eta^2 = .00$, nor did fixation time on the text, $F(1, 57) = 0.02$, $p = .893$, $\eta^2 = .00$, and illustrations, $F(1, 30) = 0.06$, $p = .801$, $\eta^2 = .00$. However, a marginally significant trend was revealed. Although participants in both groups paid equal attention to the illustrations in the message ($M_{limited} = 13.08$, $SD = 11.77$ vs. $M_{adequate} = 12.13$, $SD = 6.91$), people with adequate health literacy spent less time fixating on the text in the text-illustrated condition ($M = 61.20$, $SD = 35.87$) compared to text in the text-only condition ($M = 82.44$, $SD = 34.37$), $F(1, 58) = 2.80$, $p = .099$. This pattern was not found among people with limited health literacy ($M_{text\text{-}only} = 76.15$, $SD = 39.07$ vs. $M_{text\text{-}illustrated} = 69.94$, $SD = 30.33$), $F(1, 58) = 0.22$, $p = .641$. Nevertheless, time spent on the entire webpage by people with adequate health literacy did not decrease as a result of adding illustrations to the webpage ($M_{text\text{-}only} = 84.13$, $SD = 35.65$ vs. $M_{text\text{-}illustrated} = 75.92$, $SD = 40.53$), $F(1, 58) = 0.35$, $p = .554$. Descriptive statistics of fixation time for limited and adequate health literates are presented in Table 2.

<<insert Table 2 here>>

Association Between Health Literacy, Attention, and Recall

The second research question explored whether the relationship between attention to text and/or illustrations and recall of health information differs across health literacy levels (*RQ2*). We found that the positive association between attention to the entire webpage and recall of information was moderated by health literacy: recall improved significantly when attention to the webpage increased among people with adequate health literacy ($b = .03$, $SE = .01$, $t = 2.02$, $p = .048$), but not among people with limited health literacy ($b = .02$, $SE = .01$, $t = 1.22$, $p = .226$). Similarly, attention to the text on the webpage marginally increased recall of information in the adequate health literacy group ($b = .03$, $SE = .01$, $t = 1.88$, $p = .065$), but not among limited health literates ($b = .01$, $SE = .01$, $t = 0.49$, $p = .628$). Attention to illustrations, on the other hand, increased information recall especially among people with limited health literacy (*b* = .12, *SE* = .05, *t* = 2.21, *p* = .035), which was not the case among people with adequate health literacy (*b* = .12, *SE* = .12, *t* = 1.01, *p* = .321). Thus, if illustrations are able to capture the attention of people with limited health literacy, illustrations improve information recall among this group. Coefficients, standard errors, and confidence intervals for moderation analyses are displayed in Table 3.

<<insert Table 3 here>>

Discussion

Using eye tracking, this study provided valuable insights into how health literacy impacts attention to text-only and text-illustrated online health information, and how attention patterns relate to information recall. The most important finding was that different levels of health literacy differently influence the attention-recall relationship. Our results showed that people with adequate health literacy recalled more information when spending more time on text information, whereas recall of information improved among people with limited health literacy skills when attention to illustrations increased. This suggests that different parts of online health information lead to different information processing routes for different types of audiences.

Importantly, these findings add to the recommendations of using illustrations (Doak et al., 1996; National Cancer Institute, 2003) by showing that also in online health sources people with limited health literacy benefit from added illustrations to enhance information processing. As online versus offline information is often differently approached (Lustria, 2007), it is important to know that our findings correspond to those found in printed health materials. The next step is to put effort in designing attractive, but informative illustrations in health information messages to attract people’s attention to improve recall of information.

Furthermore, we found that people with different levels of health literacy spent similar time looking at online health information, which is in line with previous research (Mackert et al., 2013). However, attention to the entire webpage only increased recall of information among people with adequate health literacy. As this effect was not found for people with limited health literacy, this finding indicates that health literacy affects the efficiency of information processing time. Colter and Summers (2014) showed that people with limited literacy skills often spend much time on online information, because they are afraid to miss out on important information. However, while reading, people with limited literacy spend a lot of cognitive effort to make sense of what words actually mean, without sufficiently processing the message. This could also be an explanation for our finding: even though people with both adequate and limited health literacy spent similar amounts of time on the entire webpage, attention to the webpage only increased recall of information among adequate health literates.

The content used in this study limits our conclusions about the conditions under which illustrations are effective. For instance, the RFA information used in our study was quite difficult and potentially too complex for people with limited health literacy skills. Illustrations might have worked differently for less complex information. However, the majority of online health information is complex (McInnes & Haglund, 2011), and recent research has shown that illustrations are especially valuable for people with limited health literacy when text information is complex (Authors, 2014b). Nevertheless, further research should investigate whether illustrations also improve health information processing with respect to different types of online content, such as for instance more instructional health information for adequate disease management (e.g., medication intake instructions).

Despite the important implications for health message design, our findings are narrowed by the scope of our outcomes. Our study focused on information processing through a single webpage, which does not reflect the entire process of using online health information. Even though attention to and recall of information are key information processing variables, these do not fully capture the process of seeking, finding, using, and acting upon health information people find online. In other words, our results reveal how health literacy influences the attention-recall relationship, but lacks insight into how information is found, selected, and acted upon. For this entire process, different skills are needed, including seeking, finding, selecting, and evaluating relevant health information. Health literacy also incorporates how information is sought, selected, and acted upon (Sørensen et al., 2012). Future research should focus on ways in which illustrations can be used to guide the process of seeking, finding, selecting, and evaluating health information among people with limited health literacy skills.

To conclude, our study emphasizes the importance of considering health literacy as a moderator of the attention-recall relationship in the context of text-only and text-illustrated online health information. Attention to different parts of online health information leads to different information processing routes for people with different levels of health literacy. Attention to text specifically benefits people with adequate health literacy in enhancing information recall, whereas, on the other hand, attention to illustrations benefits people with limited health literacy in improving recall of information. It is therefore vital for health communicators to develop health information that includes both effective text and illustrations. As attention to illustrations improves information recall among limited health literate audiences, the use of attractive and understandable illustrations is especially important for this group. If such illustrations are included in online messages, this will lead to more effective health information for a vulnerable group of health information consumers.

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Table 1

Mean Demographics for Participants.

	Limited HL (*n* = 31)		Adequate HL (*n* = 30)	
	Mean (*SD*)	Range	Mean (*SD*)	Range
Gender (female), *n* (%)	15	(48.4)	22	(73.3)
Age (years)	58.65 (18.54)	24 – 88	53.80 (17.28)	24 – 83
Education, *n* (%)				
Low	11	(35.5)	2	(6.7)*
Middle	12	(38.7)	8	(26.7)
High	8	(25.8)	20	(66.7)**
Internet use (hours per week)	13.74 (10.52)	2 – 50	17.35 (9.77	2 – 40
Prior medical knowledge (1 – 7) [a]				
General	2.55 (1.15)	1 – 6	3.73 (1.34)	2 – 6***
Lung cancer	1.81 (0.91)	1 – 4	2.37 (1.00)	1 – 5*
RFA	1.10 (0.30)	1 – 2	1.20 (0.41)	1 – 2
SAHL-D (0 – 66) [b]	46.48 (7.92)	24 – 54	57.47 (2.01)	55 – 62***
Recall of information (0 – 12) [c]	3.65 (2.68)	0 – 10	5.27 (2.68)	0 – 11*

Note. HL = Health literacy. *SD* = Standard deviation. SAHL-D = Short Assessment of Health Literacy in Dutch.

[a] The higher the score, the more prior medical knowledge in general, on lung cancer, and on RFA treatment. [b] The higher the score, the more health literate. [c] The higher the score, the more information was recalled correctly.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2

Mean (Standard Deviation) of Fixation Time as a Function of AOI and Entire Webpage.

	Text-only webpage		Text-illustrated webpage		Total	
	Limited HL (*n* = 11)	Adequate HL (*n* = 18)	Limited HL (*n* = 20)	Adequate HL (*n* = 12)	Limited HL (*n* = 31)	Adequate HL (*n* = 30)
Text information	76.15 (39.07)	82.44 (34.37)	69.94 (30.33)	61.20 (35.87) [a†]	72.14 (33.17)	73.95 (35.95)
Upper text block	35.74 (26.44)	40.05 (16.85)	35.98 (17.84)	26.66 (18.80) [a†]	35.90 (20.85)	34.70 (18.58)
Bottom text block	40.36 (16.13)	42.35 (21.21)	33.89 (14.00)	34.47 (19.81)	36.18 (14.85)	39.20 (20.69)
Illustrations	-	-	13.08 (11.77)	12.13 (6.91)	13.08 (11.77)	12.13 (6.91)
Upper illustration	-	-	5.80 (4.93)	5.29 (2.56)	5.80 (4.93)	5.29 (2.56)
Bottom illustration	-	-	7.28 (7.37)	6.84 (5.11)	7.28 (7.37)	6.84 (5.11)
Entire webpage	77.35 (38.99)	84.13 (35.65)	84.97 (33.92)	75.92 (40.53)	82.27 (35.34)	80.85 (37.22)

Note. HL = Health literacy. Means and standard deviations of fixation time in seconds (M = 81.57, SD = 35.98) as a function of the text and illustration AOIs and the entire webpage.

[a] Means differ significantly with adequate health literates in the text-only webpage (simple effect of condition within adequate health literates).

[†] $p < .10$.

Table 3

Unstandardized Coefficients, Standard Errors, and Confidence Intervals for the Effect of Attention on Recall Moderated by Health Literacy.

	b (*SE*)	95% CI
Attention to the entire webpage	0.02 (0.01)*	(0.00, 0.04)
Conditional effect of limited HL	0.02 (0.01)	(-0.01, 0.04)
Conditional effect of adequate HL	0.03 (0.01)*	(0.00, 0.05)
Attention to the text	0.02 (0.01)	(-0.00, 0.04)
Conditional effect of limited HL	0.01 (0.02)	(-0.02, 0.04)
Conditional effect of adequate HL	0.03 (0.01) †	(-0.00, 0.05)
Attention to the illustrations	0.12 (0.05)*	(0.00, 0.23)
Conditional effect of limited HL	0.12 (0.05)*	(0.01, 0.22)
Conditional effect of adequate HL	0.12 (0.12)	(-0.12, 0.36)

Note. CI = Confidence interval. HL = Health literacy. Conditional effects specify the simple effects of moderation analyses, for example, attention to illustrations is significantly associated with recall of information, but only for people with limited health literacy as the 95% CI for the coefficient does not overlap zero.

† $p < .10$. * $p < .05$.

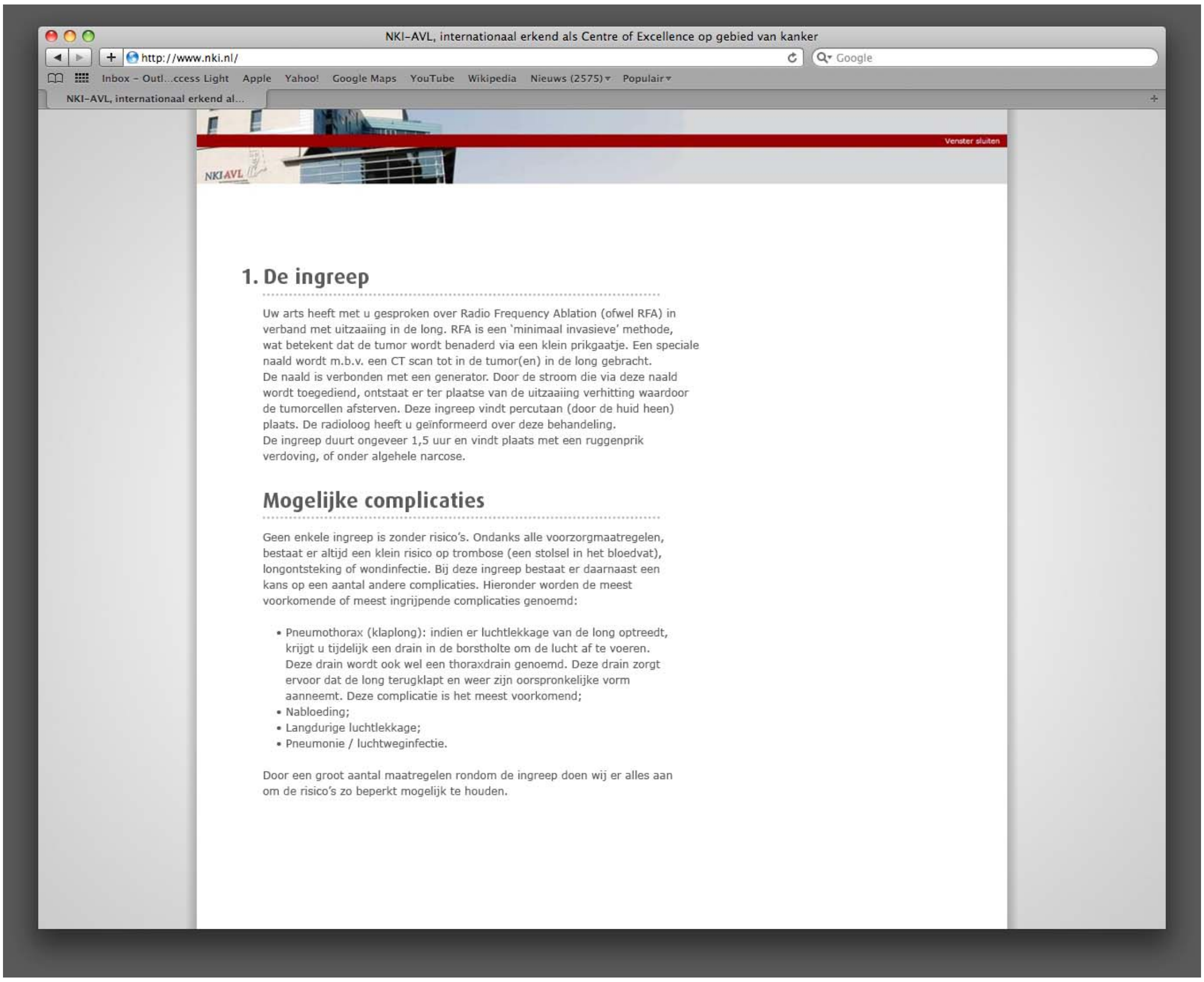

Figure 1. The text-only webpage containing RFA information.

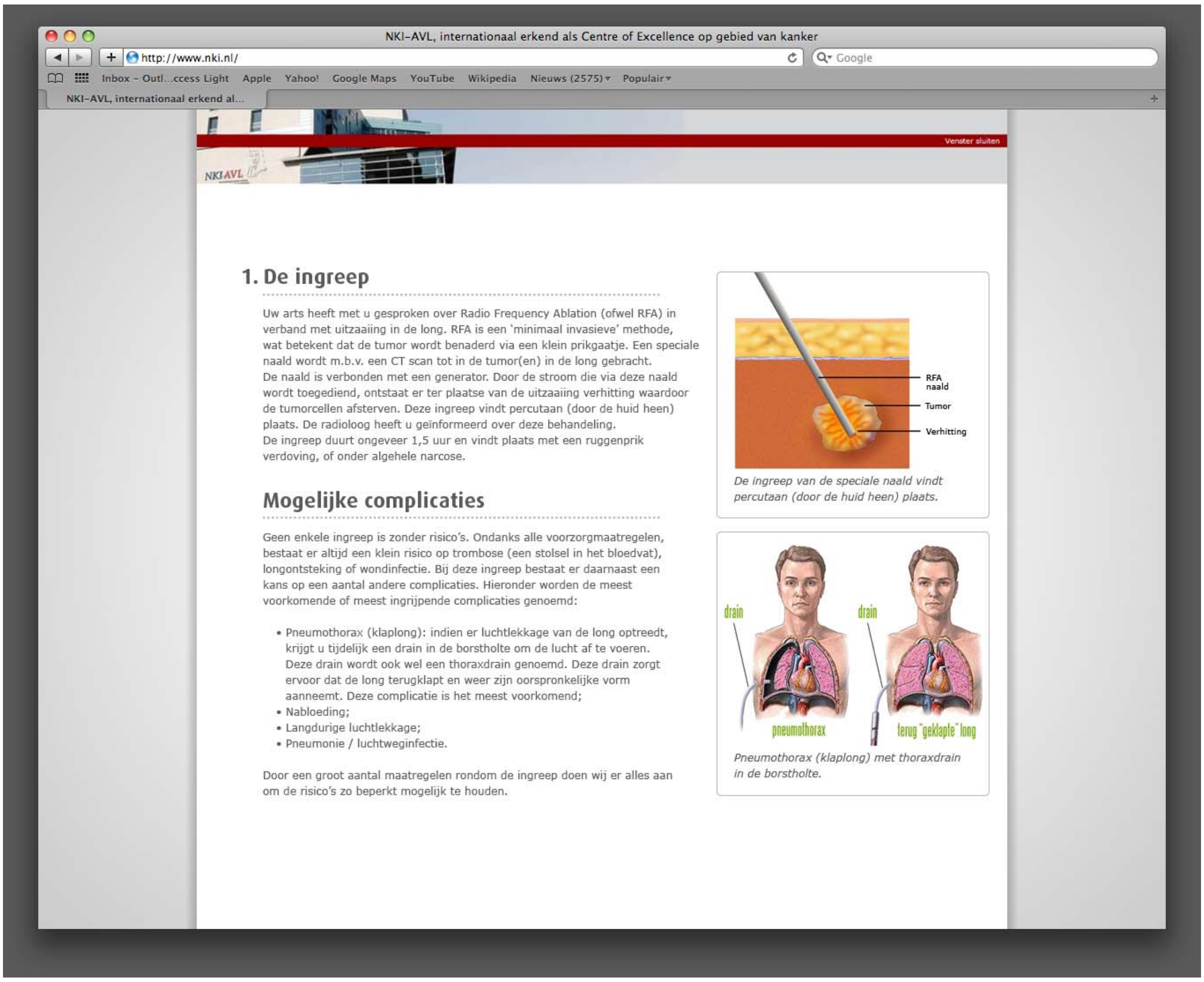

Figure 2. The text-illustrated webpage containing RFA information.