Playing doctor: the risks of seeking health-information on the internet

Master thesis Communication Studies

Author: Marieke de Groot

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Teachers: Dr. J.M. Gutteling and drs. M.H. Tempelman

Abstract

Objective: the objective of this study is to investigate why people search online for medical information and whether they are capable of correctly interpreting the gathered information.

Method: Based on theories regarding information seeking behavior and health risk communication a digital survey is conducted. The survey focuses on the reasons for participants to use the internet for search for health related information. To test whether respondents are capable of processing and interpreting medical information correctly the respondents are randomly split into four groups. Each group is given a medical text that is questioned on accuracy. The four texts differ in accuracy and complexity.

Results and conclusions: The research shows what type of information people search for on the internet and the socio-cognitive factors underlying this behavior. Furthermore it shows how people validate medical texts. The research indicates that laymen do not possess the skills to adequately validate medical information.

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Introduction

Over the past three decades internet has changed from an information technology, only used by universities and governments, to a gigantic information communication network, that links millions of people worldwide. Even though the population of internet users has grown exponentially, the number one reason why people use the internet has not changed, namely: to seek information. According to Levy and Strombeck (2002) the four most popular subjects online, ranked in order of popularity, are: news, travel, weather and health and medicine.

This study focuses on the determinants of individual health-and-medicine related internet use. The main reason why health professionals should now focus more on consumer use of the internet for health-information is the exponential growth of health-information seeking behavior over the last decade. Estimates of internet health-information seeking vary widely, but all estimates show exponential growth (Lacroix et al. 1994). By 1997, nearly half of internet users in the USA have sought health-information (Find/ SVP, 1998). Annual estimates grew from 43% in 1997 to 63% in 2000 (Pew internet and American Life Project, 2001). Expressed in raw numbers, an estimated 18 million adults in the USA sought online health-information in 1998 (Cyber Dialogue, 1998). Recent estimates range from 60 to 100 million people seeking information (Cline & Haynes, 2001).

According to Craan and Oleske (2008), the internet is an ideal source for medical information, because it can be very useful in health promotion and preventive medicine (prevention through promotion self-care). In addition the internet offers people searching for health related information the possibility to interact with peers, access tailored information and the chance to remain anonymous.

Craan & Oleske (2002) assume that health-information seekers primarily use the internet for the following reasons:

1. to find out general or specific information about particular diseases or treatments,
2. to obtain information to help them select specialists,
3. to find new therapies, or alternative therapies,
4. to understand the causes and prognosis of a given disease,
5. to look for adverse affects of a given drug,
6. to be aware of complications of a disease, or treatment,
7. To locate addresses of support groups.

In addition, health-information seeking consumers report convenience, anonymity and diversity of information sources as attractions (Pew Internet and American Life Project, 2000).

The most basic drive for seeking information is to gain knowledge in order to reduce uncertainty (ter Huurne, 2008). According to the theory of information seeking behavior (Atkin, 1973), people pursue a satisfying amount of certainty about topics in their environment. When this certainty decreases, the need for information grows and information seeking arises. The sense of being able to exert personal control over a hazard and possible outcomes as well as knowing what behavior to pursue to adequately protect oneself from possible harm plays a major role in information behavior decisions (ter Huurne, 2008). In the case of uncertainty about health and medicine related topics the internet offers people quick and easy access to information. Ter Huurne (2008) identifies three primary determinants for health seeking behavior: perception, relevance and self-efficacy. In this thesis ter Huurne's determinants are incorporated in the Research Model that is derived from the well-known Health Belief Model (Rosenstock, 1974). Both models are described in more detail hereafter.

In 2000, there were over 70 000 health-related websites (Grandetti, 2000). These websites originate from a variety of individual, professional and commercial sources (Levy & Strombeck, 2002). The main concern about the trend of online health-information seeking is the potential harm it can do. The information found could be misleading or inaccurate. Moreover, most medical information websites present technical information to a population unfamiliar with medical literature (Benigeri & Pluye, 2003). People who use these websites typically do not have the medical knowledge needed to accurately understand and process the given information. This could lead to a wrongful self-diagnosis, in which case the patient does not receive the proper treatment for his or her ailment. Misdiagnosis of a serious illness can cause aggravation of the health condition and may ultimately lead to a patient's death. Furthermore, the internet is also being used to promote the use of illegal drugs among young people. Thousands of websites exist where people can chat with other users about their experience, buy paraphernalia glorifying it's use and even purchase drugs (Levy & Strombeck, 2002). Despite these concerns, there is currently little objective evidence of harm from online health-information in the published literature (Nelson, Hwang & Bernstam, 2009).

In the USA public health officials recognize that 'the potential harm from inaccurate information is significant' (Office of Disease Prevention and Health Promotion, 2000). In their 2010 communication '*one Healthy People'* the focus is on, 'quality of internet health-information sources'. Most consumers believe that if the information is on the web, it must be reliable (Craan & Oleske, 2002). Nevertheless, there are some major problems with online medical information. Patients do not know how personal information sent over the internet will be used. Neither can the patient know for sure that a real physician is responding to his/her questions (Craan & Oleske, 2002). Physicians must be licensed in the country where they practice medicine. But what if a patient lives in a different country than the physician? Which license is then applicable (Craan & Oleske, 2002)? Furthermore, there is the question of liability. Is a physician liable if the wrong diagnosis is made online, and under what law will the physician be accountable? Another problem is that it is now possible for pharmaceutical companies to promote their products online.

Their products can be promoted directly on company websites or in partnership with medical information websites. These new ways of disseminating medical information carry important risks of conflicts of interest and over-consumption of medication (Meyers, 2001).

Research goal and purpose

This study focuses on the question why people search online for medical information and how they regard, perceive, process and interpret the obtained information. The aim of the proposed research is to find out the current health information seeking behavior on the internet and to assess people's ability to accurately process medical information. The Health Belief Model (Fig. 1) serves as the foundation on which this research is built. The Health Belief Model tries to predict health related behavior. This model is widely used in studies that aim to predict health related behavior. Examples are: the turnout at health checks (Norman & Conner, 1993) and the use of a diabetes screening test (Nijhof, ter Hoeven & de Jong, 2008). The author has not found information on the use of the Health Belief Model in e-health related studies. The Health Belief Model focuses on two behavioral aspects: perceived threats and behavioral evaluation. Perceived threat is based on perceived susceptibility and perceived severity of the threat. The behavioral evaluation consists of the perceived benefits and barriers of the behavior. The Health Belief Model assumes that it is possible to modify behavior through cues to action, such as information retrieved from the internet. However, the Health Belief Model does not focus on information seeking behavior. Relevance and perception of retrieved information are incorporated in the model but self-efficacy, according to ter Huurne (2008) the third determinant for health information seeking behavior, is missing. Based on ter Huurne's work the Health Belief Model has therefore been modified to the Research Model shown in Fig. 2.

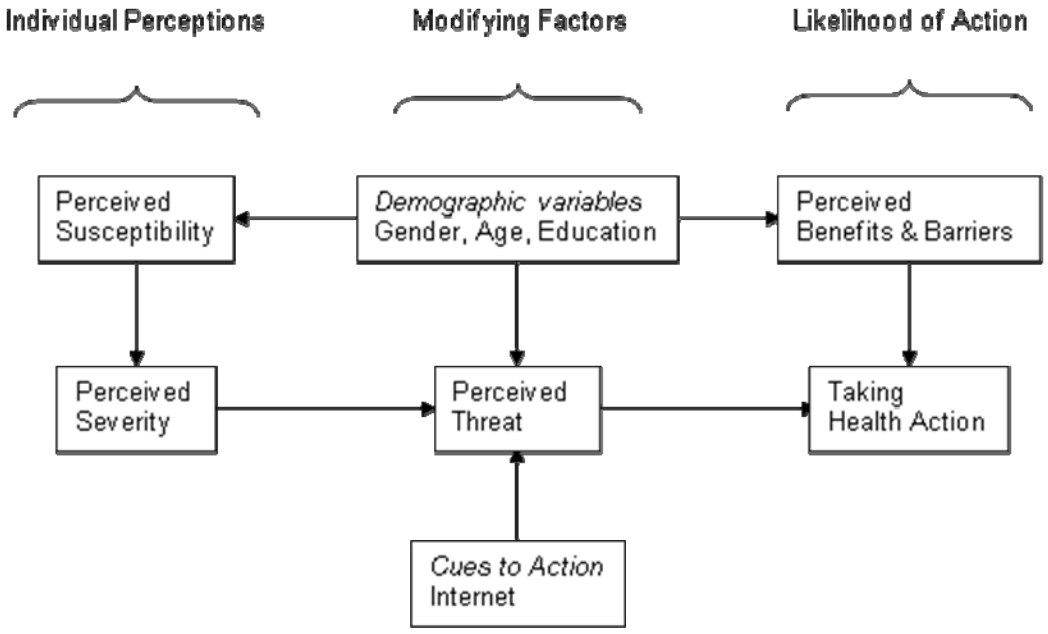

Figure 1 **Health Belief Model (**Source: Glanz et al, 2002, p. 52).

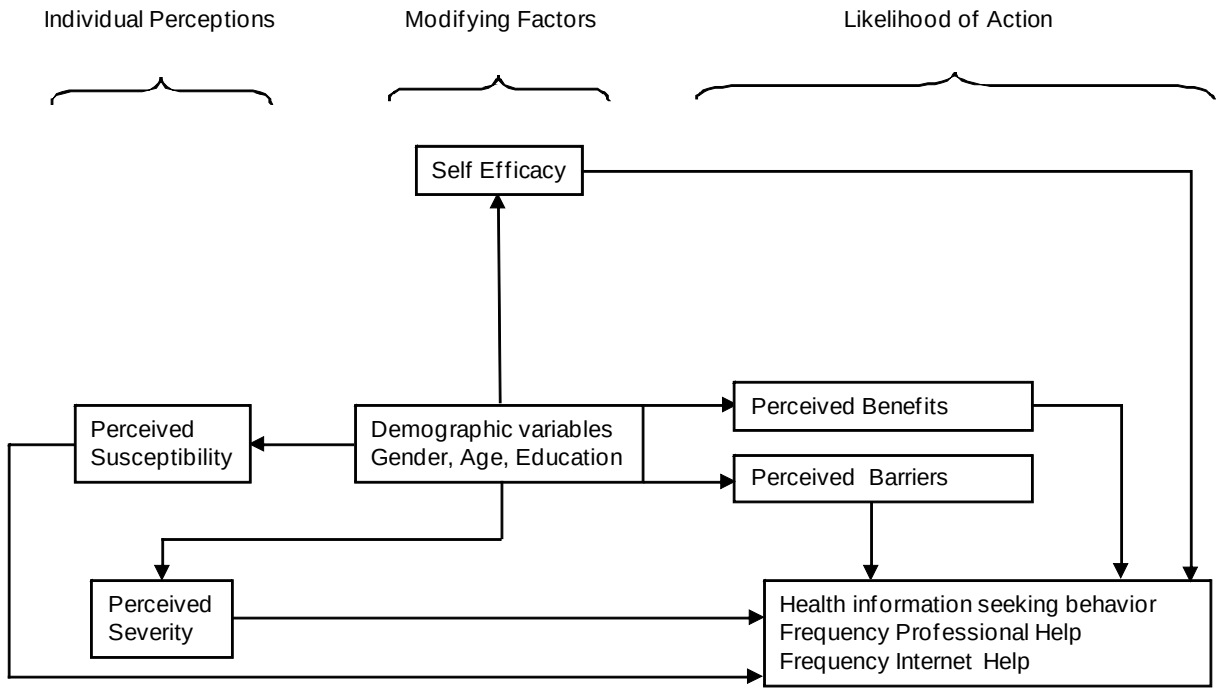

Figure 2 **Research Model**

As a derivative of the Health Believe Model the Research Model comprises similar components as the Health Belief model: namely perceived benefits and barriers, perceived susceptibility and perceived threat and demographic variables. Perceived threat is based on perceived susceptibility and perceived severity of the threat. The behavioral evaluation consists of the perceived benefits and barriers of the behavior. The Health Belief Model assumes that it is possible to modify behavior through cues to action, such as information retrieved from the internet.

Contrary to the Health Belief Model, the Research Model does not try to predict health related behavior, so cues to action are not present. In the Research Model existing behavior and attitudes are a function of perceived susceptibility, perceived severity of the threat, perceived benefits and barriers and self-efficacy. The focus is on mapping current behavior and to assess peoples' self-efficacy in regard to correctly processing and interpreting health related information. Self-efficacy refers to the notion that the individual expects to be able to cope with risks adequately with newly acquired information (Bandura, 2000). In this study the assumption is made that self-efficacy is a function of demographic variables, such as age, gender and education. It is expected that people with higher education possess a higher level of self efficacy than people with lower education. Similarly, it is expected that older people possess higher level of self efficacy than younger people.

The research consists of four questionnaires. Each questionnaire comprises a survey part and a quasi experiment part. The survey part of the research contains 22 questions and is the same in each questionnaire. The quasi experiment contains five questions and studies whether the participants are capable of correctly interpreting a medical text. Each questionnaire contains a different medical text.

Central question

This thesis aims to answer the following central question:

"What are the determinants of online health information seeking, for the information seeker?

It is proposed to answer the central question by asking the following sub-questions:

Questions in the survey part of the research:

1. Why do people search for health information on the internet
2. What type of health information do people search for on the internet?
3. Which socio-cognitive factors from the Research Model predict why people search for health related information on the internet?
4. Are demographic factors, like education gender and age related to the socio-cognitive factors from the research model?
5. Is knowledge obtained on the internet related to doctor's visits?
6. Are demographic factors, like education, gender and age related to the frequency of searching for health information on the internet?

The questions in the quasi experiment part of the research focus on reliability and complexity and how these factors influence people's ability to adequately assess medical texts. The expectation in this research is that people regard medical texts that contain complex professional language as more reliable. No scientific literature has been found to support this expectation.

Questions in the quasi experiment of the research:

7. How do people perceive and validate the health information gathered on the internet?
8. Is self efficacy, here defined as the individual's ability to gather health information from the internet and to process and interpret the gathered accurately, related to the demographic factors: education, gender and age?

Methodology

Research design and procedure

The study is a diagnostic research into the determinants associated with medical information seeking behavior. The study is split into two parts. The first part of the study is a digital survey containing questions regarding demographic variables, perceived susceptibility, perceived severity, existing behavior and attitudes and perceived benefits and barriers of searching for health related information on the internet. The second part of the study is a quasi experiment designed to test the impact of complexity and reliability of texts on the participant's self efficacy. The participants are split into four groups. Each group receives a different medical text (Appendix I) with questions. The texts differ in complexity and reliability. The texts of the quasi experiment have been altered by a physician in order to create two complicated text specked with medical jargon and two texts without profession medical language. In summation: There is a simple-reliable, a complicated-reliable, a complicated-unreliable and a simple-unreliable text (Fig. 3).

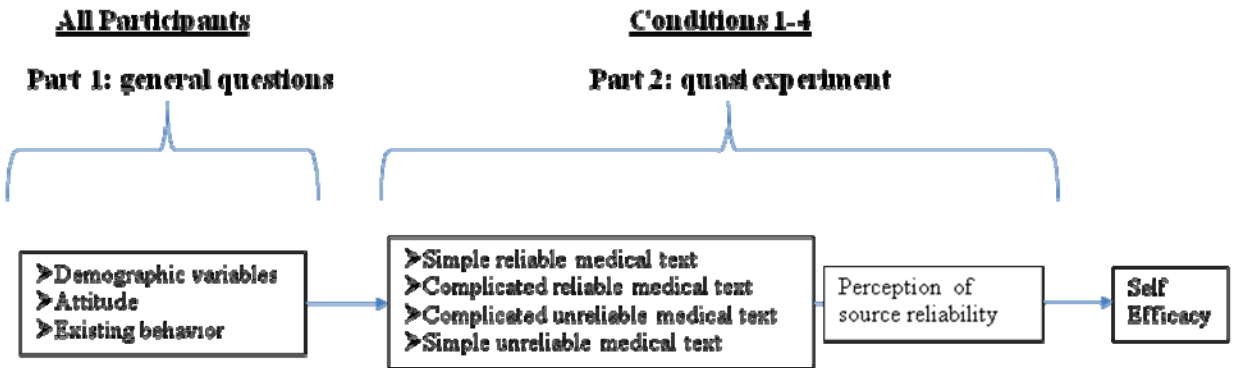

Figure 3 Schematic overview of the quasi experiment.

Operationalisation (survey part of the study)

Each survey contains 27 questions. The first 22 questions belong to the general part of the survey. This part focuses on the participants' behavior and their perceptions regarding the use of internet to search for health related information. It is studied how participants perceive and evaluate information received from their general practitioner, their apothecary, and from specialists in comparison to gathered information from the internet. The majority of the questions to measure perceived susceptibility, perceived threat, perceived severity, perceived barriers and threats and source reliability are derived from Abraham and Sheeran (2005) and Vasello et al (2008). Some questions are of the author's design. All questions are adjusted to fit the language and design of this research.

The study results were analyzed in the framework of the Research Model shown in Fig. 2. The variables: "perceived susceptibility", "perceived severity" and "perceived benefits and barriers" are standard variables in the Health Belief Model (Fig. 1). Perceived susceptibility quantitatively measures the degree in which participants believe that they are susceptible to health problems as self diagnosed on the internet. Perceived severity measures how perilous the participant perceives health threats related to self diagnosis on the internet. The variable perceived benefits and barriers measures the participant's attitude towards the pros and the cons of gathering health information on the internet. Table 1 displays the research variables, example items, alpha's and response possibilities.

Table I Survey part of the study.

	Number of items	a	Answering possibilities
Perceived susceptibility *#By self-diagnosing on the internet, I have an increased chance of developing health problems.* *#Because of unreliable information on the internet I have an increased chance of developing a health problem in the coming year.*	**4**	**.74**	Five point scale from completely agree (1) to completely disagree (5)*
Perceived severity *#The idea of health problems caused by self diagnoses, make my heart race.* *#Health problems caused by self diagnoses can be very severe.*	**4**	**.79**	Five point scale from completely agree (1) to completely disagree (5)*
Perceived benefits *#One of the biggest benefits of using the internet to search for health information is anonymity.* ***Perceived barriers*** *#People without a medical education do not possess the knowledge to correctly evaluate health information.*	**4** **4**	**.70** **.78**	*Five point scale from completely agree (1) to completely disagree (5)*

** These are the answering possibilities as presented in the questionnaire. For the analyses answering possibilities were reversed, so a higher number represents a positive answer and a lower number represents a negative answer.*

Operationalisation (quasi experimental part of the study)

The second part of the surveys differs in information source and five related questions. Four different medical texts are examined. Survey one contains a reliable, easy to read text. Survey two has a medical text that is equally reliable but the text is complicated due to the use of medical jargon. Survey three contains an unreliable, complicated text while the text of survey four is unreliable but easy to read. The quasi experiment tests the self efficacy of the participants, regarding correctly interpreting the given medical information. Secondly, it tests whether the complexity of the text influences the participants' perception of reliability.

The variables investigated in the quasi experiment of the research are: "self efficacy", "health information seeking behavior" and "source reliability". Existing behavior measures amongst others how often participants visit their general physician and how often they search the internet for health-related information. Self efficacy is tested in the quasi experiment by examining the participant's response to the source reliability questions in the four different medical texts. The possible relationship between self efficacy and demographic factors: age, gender and education are investigated with one-way ANOVA tests. All variables are scored by averaging over the postulated items. Table 2 displays the research variables, example items, alpha's and response possibilities.

Table II Quasi experiment part of the study.

Self efficacy *#I am able to make a valid diagnosis with the information on the internet.* *#If I make my own diagnosis based on information on the internet there is a good chance that the diagnosis will be correct.*	3	Not applicable r=,60, p< 0,01	*Open ended question *Five point scale from completely agree (1) to completely disagree (5)*
Health information seeking behaviour *#How often do you search for health related information on the internet?* *#How big is the chance that you will look for complementary information on the internet after a visit to your physician?* *#Do you look for information on the internet before consulting a physician?*	8	.84	*Yes/No *6 point scale from once a week (1) to less than once a year (6)* *6 point scale from very big (1) tot nonexistent (6)* * Five point scale from always (1) to never (5)*
Source reliability *#I belief this information source is from an expert.* *#I belief this is a reliable information source.*	4	.91	*Five point scale from completely agree (1) to completely disagree (5)*

Note These are the answering possibilities as presented in the questionnaire. For the analyses answering possibilities were reversed, so a higher number represents a positive answer and a lower number represents a negative answer.*

Pilot

The first draft of the questionnaire and the medical texts were tested in a pilot study to verify the intelligibility of both questions and texts. Based on feedback from the pilot study minor adjustments, such as the framing of several items, were made. The appendix contains the survey used for this research. Figure 3 shows a schematic overview of the research.

Subjects

The recruitment of the respondents was done in the form of a personalized email requests, distributed to family, friends, coworkers and university students. The author randomly invited subjects to fill out one of the four available surveys. All subjects are active on the internet. The majority belongs to the age group of 18 to 65 Craan & Oleske (2002). A premise of the study is that people in this age group are likely to be active consumers of online health information. The respondents represent a convenience sample impeding generalization beyond the sample group.

The subjects are categorized into different categories based on gender, age and education level: low, middle, high and university level respectively. In total 297 people completed one of the four surveys. The age of the respondents ranges from 16 to 74, with an average of 38 years. 43% of the participants is male and 55,3% female. Regarding the education of the subjects: 16,8% has a high school degree, 10,8% completed an intermediate vocational education study, 35% a higher vocational education study and 38% completed a university degree. The response percentage of this research is not traceable as the respondents were asked to forward the e-mail request.

The distribution of demographical characteristics of respondents that received one of the quasi-experimental messages as part of the questionnaire was tested with the the one-sample Kolmogorov - Smirnov test. The test was applied to all variables. All quantitative variables passed the test meaning they are distributed normally.

Analysis

The analysis of the results is performed with SPSS version 18.0 for Windows. To answer the main body of the research questions (App. II) of this research all responses of the four individual surveys were joined for statistical analysis. The statistical significance is set to 0.05, two-sided. First the demographic distribution of the population is given followed by basic statistics of the research variables. Thereafter each of the research questions is addressed.

Results

First the general results are discussed. Next the results from the survey part of the research are discussed and finally the results from the quasi experiment are discussed.

General results

The means and standard deviations of the four perceived variables of the Health Belief Model: susceptibility, severity, barriers and benefits and the variable existing behavior and attitudes are averaged (Table 3). The means indicate that the participants are fairly neutral in their opinion regarding the susceptibility and the severity of health related problems caused by self diagnosis on the internet. The same is true for their opinion about the perceived barriers and benefits for using the internet to search for health related information.

The Pearson correlation test is performed to investigate the correlations between the variables of the research model. The research shows that there is a correlation between perceived susceptibility and perceived severity r=0, 47, p= < 0.01 and a negative correlation between perceived susceptibility and perceived barriers r=-0,60, p=< 0,01. There is no significant correlation between perceived susceptibility and health information seeking behavior or between perceived susceptibility and perceived benefits. A correlation is observed between perceived severity and perceived barriers r=0,60, p=<0,01. There is a weak correlation between perceived severity and perceived benefits r=0, 28, p=<0,01. There is weak correlation between perceived benefits and perceived barriers r=0,16, p=<0,01. There are no significant correlations between perceived barriers and health information seeking and no correlations between perceived susceptibility and health information seeking behavior. Health information seeking behavior has a correlation with perceived severity r=0,28, p=<0,01. Health information seeking behavior also has a correlation with perceived benefits r=0,53, p=<0,01.

Table III Means and standard deviations of the four "perceived" variables and the variable existing behavior and attitudes reflect fairly neutral responses.

Table	Total		
	N	M	SD
Perceived susceptibility	297	2,74	1.17
Perceived severity	297	3,36	1,17
Perceived benefits	297	2,75	1,02
Perceived barriers	297	3,34	1,09
Health information seeking behavior	267	3,41	1,26

Note: All variables could be answered based on a five point scale. The values were recoded. Value 1 represents totally disagree and 5 represents totally agree, which means that 1 represents a low score, for the variable and 5 a high score.

Research question 4

Are demographic factors, like education gender and age related to the socio-cognitive factors from the research model?

A detailed analysis is performed of the socio-cognitive factors from the research model versus demographic factors age, gender and education. One-way ANOVA tests are conducted to investigate whether demographic classes respond differently to the socio-cognitive factors perceived benefits, perceived barriers, perceived severity and perceived susceptibility. The test reveals several significant differences between group responses. There is a significant difference in the response per age group with regards to perceived barriers. The respondents are grouped into young (<25), middle (25<= age < 45) and old (>= 45). Young people have lower perceived barriers than middle-aged people, who in turn have lower perceived barriers than old people (M=3,07, SD= 0,97), F=3,28, p=<0,05. The age groups also score significantly different on perceived susceptibility. Young people perceive less susceptibility than middle age people while old people have the highest score on perceived susceptibility (M=5,43, SD=0,94), F=6,38, p=<0,05. Finally significant differences are observed between gender and the socio-cognitive

factor perceived severity. Women exhibit a higher degree of perceived severity than men (M=3,24, SD=0,92), F=3,86, p=<0,05.

In the following sections the results of the survey part of the research are discussed. Research questions one, two, three, four and five and six are related to the survey part of the research and research questions seven and eight are related to the quasi experiment of the research.

Survey results

Research question 1:

Why do people search for health information on the internet?

In the questionnaire the participants are asked why they use the internet to search for health related information (Table IV). The participants are allowed to choose multiple answers. The possible answers are:

- Because I am prone to a specific disease (**Prone** in Table IV).
- Because I have a disorder (**Disorder** in Table IV)
- Because I have been diagnosed and I want to know more about my illness (**Diagnosed** in Table IV)
- To obtain a better understanding of the causes and the prognosis of a disease (**Understanding** in Table IV)
- To get in contact with peers (**Peers** in Table IV)
- To be aware of possible complications of a disease or treatment (**Complications** in Table IV).
- Out of curiosity (**Curiosity** in Table IV).

Table IV Why do you search for health information on the internet? (N=297)

Search reason	Number of respondents	Percentage
Disorder	156	24%
Understanding	152	24%
Complications	119	19%
Diagnosed	115	18%
Curiosity	54	8%
Prone	38	6%

Research question 2:

What type of health information do people search for on the internet?

In the questionnaire the participants are asked what type of health related information they search for (Table V). Multiple answers are allowed. The possible answers are:

- General or specific information about a specific disease or treatment (**General/ specific** in Table V).
- Information to help with selecting a specialist (**Specialist** in Table V).
- Information about new or alternative treatments (**New treatment** in Table V).
- Information about side effects of medication (**Medication** in Table V).

Table V What type of health information do you search for? (N=297)

Type of medical information	Number of respondents	Percentage
General/specific	258	58%
Medication	105	24%
New treatment	51	11%
Specialist	32	7%

Research question 3:

Which socio-cognitive factors from the research model predict why people search for health related information on the internet?

To investigate which socio-cognitive factors correlate with the content factors of why people search for health information on the internet, the Pearson correlation test is conducted. Several correlations have been found between socio-cognitive factors and reasons why people search for health information on the internet. There is a very weak correlation between perceived barriers and people who search the internet for health related information for entertainment r=0,19, p=<0,01. Perceived benefits correlates significantly with several reasons why people search for health related information on the internet. A moderate correlation is observed with people who search because they have complaints r=0,29, p=<0,01. This means that people who think it is beneficial to search for health related information on the internet search for information when they suffer from certain complaints. Perceived benefits also has a moderate correlation with the reason to get a better understanding about the prognosis of a disease r=0,12, p=<0,01 and a moderate correlation exists with the reason to get information about possible complications of a treatment r=0,17, p=<0,01. Perceived severity has a moderate correlation with the reason for

entertainment r=0,14, p=<0,01. Perceived susceptibility has no correlations with reasons why people search for health related information on the internet.

Research question 5:

Is knowledge obtained on the internet related to doctor's visits?

A moderate correlation between doctors visits and the number of time spent on the internet searching for health related information is observed (r = 0.32, p < 0,01). This means that a high frequency of searching the internet for health related information is positively related to a high number of doctors' visits. Contrary to expectation there is no correlation (r = -0,06), between level of formal education and frequency of searching for health related information on the internet. There is no correlation between education and searching for health information before or after a doctor's visit. The respective correlation coefficients are: r= 0,03 and r= 0,07.

Research question 6:

Are demographic factors, like education, gender and age related to the frequency of searching for health information on the internet?

There are no strong correlations between demographic factors and the frequency of searching for health related information on the internet (Table VI). There is a very moderate negative correlation between gender and the frequency of searching for health related information on the internet (r=-0,19, p= < 0,01), which means that men search the internet slightly more frequently for health related information than women.

Table VI Correlations: search frequency versus demographic factors age, gender and education.

Demographic factors	Frequency of searching for health related information on the internet
Age	0,11
Gender	-0,19**
Education	-0,06

**Correlation is significant at the 0,01 level (2-tailed).

Quasi experiment results

Research question 7:

How do people perceive and validate the health information gathered on the internet?

This question is addressed by the quasi experiment that is embedded in this research. The self efficacy is tested by analyzing the participant's response to the source reliability variable. Items are designed to test whether content and complexity of the information influence the response and level of acceptance. All variables are scored by averaging over the postulated items. There are no significant differences between how people validate the different texts. Table VII shows the means and standard deviations of self efficacy for the four surveys.

Table VII Means and Standard Deviations of self efficacy for the four surveys show similar neutral responses. Self efficacy values range from 1 (all answers wrong) to 5 (all answers correct).

	Easy		Complex	
Reliable	Mean	2,97	Mean	2,88
	Std. Deviation	0,93	Std. Deviation	0,86
	F	1,46	F	0,40
Unreliable	Mean	2,96	Mean	3,00
	Std. Deviation	0,71	Std. Deviation	0,71
	F	0,65	F	2,50

Research question 8:

Is self efficacy, here defined as the individual's ability to gather health information from the internet and to process and interpret the gathered accurately, related to the demographic factors: education, gender and age?

Next a detailed analysis is performed of self efficacy versus demographic factors age, gender and education. One-way ANOVA tests are conducted to investigate whether demographic classes respond differently to complex versus simple texts and reliable versus unreliable texts. All variables are scored by averaging over the postulated items. No significant differences between the classes are observed.

Table VIII Level of formal education values range from 1 (high school) to 7 (university degree). Gender value rage from 1 (Male) to 2 (Female). Age group values range from 1 (< 30) to 2 (30-50) and 3 (>50).

	Self efficacy	
Gender	Mean	1,57
	Std. Deviation	0,50
	F	0,90
Level of Formal Education	Mean	5,91
	Std. Deviation	1,26
	F	1,00
Age Group	Mean	2,09
	Std. Deviation	0,72
	F	1,10

Conclusions, Discussion and Recommendations

This thesis set out to investigate the reasons why people search for health and medicine related information on the internet and whether laymen are capable of correctly interpreting the gathered information. It adds to our understanding of the role the internet plays in public health matters and the associated risks of self-diagnosis.

This study gives insight in the informational reasons and the socio-cognitive reasons as to why people search for health related information on the internet. Research question one shows that the most important reasons to search the internet for health related information are: to gather information about a personal disorder and to obtain a better understanding of the causes and prognosis of a disease. Both reasons score 24%. Research question two shows what type of health related information the participants search for on the internet (Table IV). With a score of 58 % the most sought after health related information by far is general and specific information about a certain disease or treatment. The second most sought after information is information about side effects of medication (24%). The least sought after information is information to help select a specialist (7%). There are no significant correlations between type of health information people search for and the demographic factors gender, age and education. Research question three shows the relationships between the socio-cognitive factors of the Health Belief Model and the information people seek on the internet. People with a high perceived barrier for searching health related information on the internet search the internet more frequently for entertainment reasons than people with a low perceived barrier. People who think it is beneficial to search for health related information on the internet search the internet for information more frequently when they have complaints than people that score low on perceived benefits. To obtain a better understanding about the prognosis of a disease people with a high score on perceived benefits search the internet more frequently. Research question four investigates whether demographic factors, like education gender and age are related to the socio-cognitive factors from the research model. Young people have lower perceived barriers than middle-aged people, who in turn have lower perceived barriers than old people ($M=3,07$, $SD= 0,97$), $F=3,28$, $p=<0,05$. The age groups also score significantly different on perceived susceptibility. Young people perceive less susceptibility than middle age people while old people have the highest score on perceived susceptibility ($M=5,43$, $SD=0,94$), $F=6,38$, $p=<0,05$. Finally significant differences are observed between gender and the socio-cognitive factor perceived severity. Women exhibit a higher degree of perceived severity than men ($M=3,24$, $SD=0,92$), $F=3,86$, $p=<0,05$.

Research question five investigates whether knowledge obtained on the internet is related to doctor's visits. A moderate correlation between doctors visits and the number of time spent on

the internet searching for health related information is observed ($r = 0.32$, $p < 0,01$). This means that a high frequency of searching the internet for health related information is positively related to a high number of doctors' visits. Contrary to expectation there is no correlation ($r = -0,06$), between the level of formal education and frequency of searching for health related information on the internet. There is no significant correlation between education and searching for health information before or after a doctor's visit. The respective correlation coefficients are: $r= 0,03$ and $r= 0,07$.

Research question six investigates whether demographic factors, like education, gender and age are related to the frequency of searching for health information on the internet.

The outcome of this research shows that there is a moderate negative correlation between frequency of searching the internet for health information and the demographic factor gender ($r=-0.19$, $p= < 0.01$). This means that men search the internet for health related information slightly more often than women. This is not a very strong correlation. The reason for this could be that men spend more time on the internet than women. In this study however, the frequency of time spend on the internet in general was not investigated. There are no significant correlations between frequency of searching and the demographic factors education and age. Everyone can access the internet and there is no difference in health related information seeking behavior between the old and the young, or higher and lower educated people.

The problem addressed in the quasi experiment of this research (research questions seven and eight) is to assess people's ability to obtain and process medical information accurately. No significant differences are observed in the responses to the different medical texts. It is realized that the texts chosen for the experiment may have influenced the outcome. Kidney stones is a relatively well known ailment, hence prepossessed knowledge could have led to a better assessment of the accuracy of the medical text. The experiment in this study revealed that not all respondents are able to distinguish between accurate and inaccurate medical information (Table V). This is a rather worrying conclusion especially so since 89.9% of the participants admitted to looking for health information on the internet and 73% of the respondents in this study belong to the category of higher educated people.

The applied Research Model is a derivative of the widely used Health Belief Model, e.g. Norman & Conner (1993), Nijhof, ter Hoeve & de Jong (2008) and Nexoe, Kragstrup & Sogaard (1998). Contrary to the Health Belief Model, the Research Model does not try to predict health related behavior. Instead it focuses on current behavior and to assess peoples' self-efficacy in regard to correctly processing and interpreting health related information. The modification is based on the work of ter Huurne (2008). A further deviation from the Health Belief Model is the uncoupling of perceived barriers and perceived benefits. The split is introduced to separate the

presumed trends that perceived barriers are reduced while perceived benefits increase with increasing internet usage.

The results of this research do not confirm the theory. Figure 4 shows the Research Model with observed correlations. Only three significant correlations are observed: 1) between age and perceived susceptibility (r=0,15, p<=0,01), 2) between perceived benefits and health seeking information behavior (r=0,53, p<=001), and 3) between perceived severity and health seeking information behavior (r=0,23, p<=0,01). No other significant correlations are recorded in this survey. Does this mean that the Research Model, and the underlying Health Belief Model are wrong, or is the mismatch caused by the data? As explained above the data was collected from a convenience sample. Seventy-three percent of the respondents belong to the category higher educated people. It is thus possible that the sample is not representative. Nevertheless, the results warrant further investigation into the validity of the Health Belief Model as well as the validity of ter Huurne's derived model that includes self efficacy.

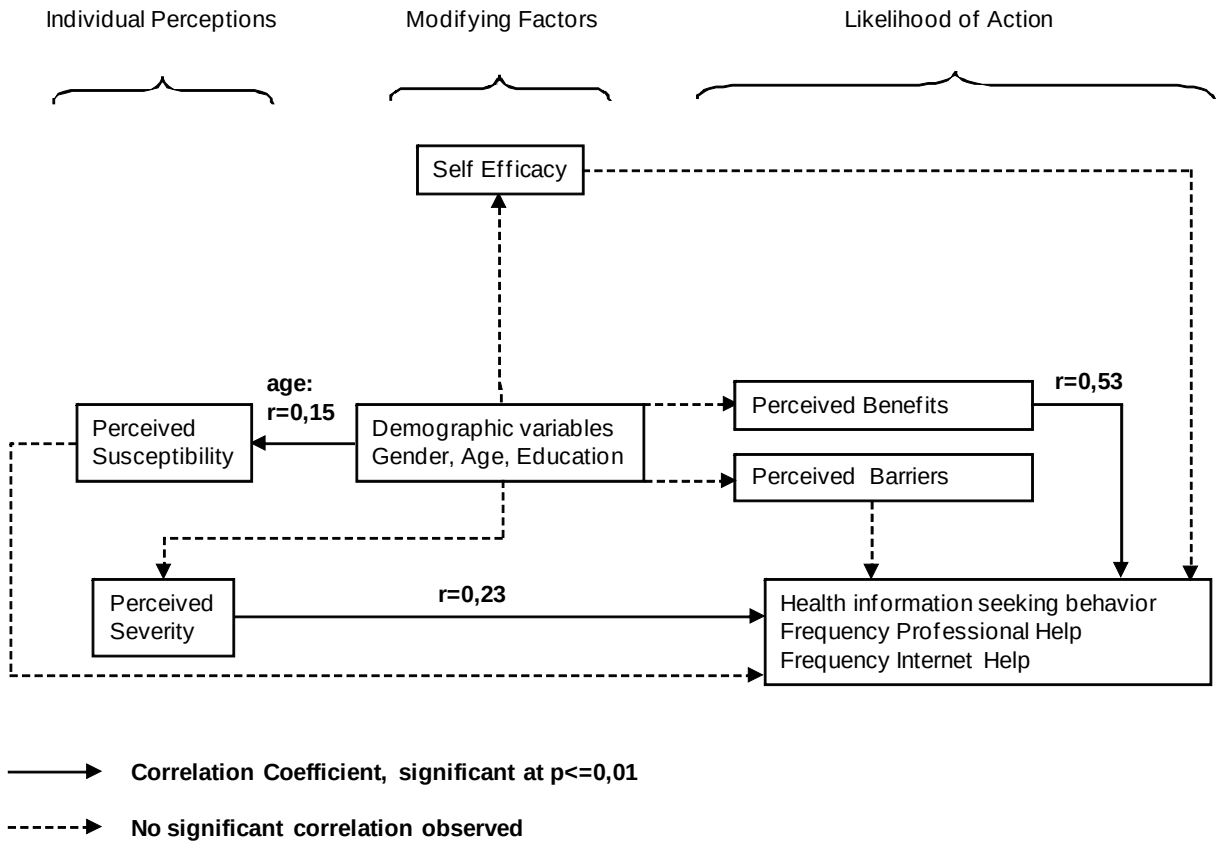

Figure 4 Research Model with observed correlations.

Recommendations for future research

Given the trend in searching for health related information on the internet it is recommended to continue research on this subject. The results in this research provide valuable implications for future communication efforts in the realm of health information seeking on the internet. It is interesting to investigate whether the Health Belief Model is still valid. Furthermore, it is interesting to investigate whether the time spent on the internet in general has an impact on the frequency of search for health related information on the internet. However, the results of this study must be viewed in the light of the limitations that need to be addressed. First, the respondents used in this study were part of a convenience sample, and therefore the findings of this research can't be generalized. Second it is recommended to repeat the surveys with different medical texts in the quasi experiment and to perform a pilot study to investigate whether the survey part of the questionnaire influences the answers given in the quasi experiment part of the research. Thirdly, a broader diversity of participants with regard to education is recommended. An interesting question to be addressed in a follow-up study is: which websites are the primary sources of information for health information seekers? The next logical question is: which of these most frequented sites is considered reliable? Once the landscape is mapped it becomes feasible to reduce risks associated with health seeking behavior. For example the government could issue a stamp of approval for sites that are considered reliable. Websites with a "reliable" logo can thus be easily distinguished from websites with questionable information.

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Appendix I: General questions

1. Default Section

Geachte respondent,

Aller eerst hartelijk dank voor uw deelname aan dit afstudeeronderzoek. De vragen in dit onderzoek hebben betrekking op gezondheidsinformatie op het internet.
Het invullen van deze vragenlijst zal ongeveer 12 minuten van uw tijd in beslag nemen. Alle gegevens zullen uiterst zorgvuldig en vertrouwelijk worden verwerkt. Ik zou u dan ook willen verzoeken om zo eerlijk mogelijk te antwoorden. Deze vragenlijst bevat geen goede of foute antwoorden. Mocht u twijfelen tussen antwoordmogelijkheden, bedenk dan dat de eerste ingeving vaak de beste is.
Nogmaals heel hartelijk dank voor uw deelname!

Marieke de Groot, studente Communications Studies Universiteit Twente.

*** 1. Wat is uw leeftijd?**

*** 2. Wat is uw geslacht?**

- ◯ Man
- ◯ Vrouw

*** 3. Wat is uw hoogst genoten opleiding?**

- ☐ Basisschool
- ☐ MBO
- ☐ MAVO/VMBO
- ☐ HBO
- ☐ HAVO
- ☐ WO
- ☐ VWO

4. Er volgen nu enkele vragen over medische informatie. Met medische informatie bedoelen we alle informatie die is gerelateerd aan gezondheid.

Heeft u het internet wel eens gebruikt om medische informatie te zoeken?

- ◯ Ja.
- ◯ Nee. *Indien nee kunt u de internet gerelateerde vragen overslaan

5. Wat voor een medische informatie zoekt u op het internet? U mag meerdere antwoorden aanklikken .

- ☐ Algemene of specifieke informatie over een specifieke ziekte of behandeling.
- ☐ Informatie die helpt bij het selecteren van een specialist.
- ☐ Informatie over nieuwe of alternatieve behandelingen.
- ☐ Informatie over de bijwerkingen van medicijnen.

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*** 2. Wat is uw geslacht?**

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- ☐ Informatie die helpt bij het selecteren van een specialist.
- ☐ Informatie over nieuwe of alternatieve behandelingen.
- ☐ Informatie over de bijwerkingen van medicijnen.

6. Waarom zoekt u medische informatie op het internet? U mag meerdere antwoorden aanklikken.

- [ ] Omdat u het risico loopt met een bepaalde ziekte te maken te krijgen.
- [ ] Omdat u klachten heeft.
- [ ] Omdat u bent gediagnostiseerd en meer over uw ziekte wilt weten.
- [ ] Om beter begrip te krijgen van de oorzaken en de prognose van een ziekte.
- [ ] Om in contact te komen met lotgenoten.
- [ ] Om op de hoogte te zijn van de eventuele complicaties van een ziekte of behandeling.
- [ ] Omdat ik het leuk vind om naar medische informatie te zoeken op het internet.

7. Hoe vaak zoekt u gemiddeld naar medische informatie op het internet?

- ◯ 1 keer per week.
- ◯ 1 keer per maand.
- ◯ 1 keer per 3 maanden.
- ◯ 1 keer per 6 maanden.
- ◯ 1 keer per jaar.
- ◯ Minder dan 1 keer per jaar.

8. Hoe vaak gaat u gemiddeld naar uw huisarts?

- ◯ 1 keer per week.
- ◯ 1 keer per maand.
- ◯ 1 keer per 3 maanden.
- ◯ 1 keer per 6 maanden.
- ◯ 1 keer per jaar.
- ◯ Minder dan 1 keer per jaar.

9. Zoekt u eerst informatie op het internet alvorens uw huisarts te raadplegen?

- ◯ Altijd.
- ◯ Vaak.
- ◯ Soms.
- ◯ Bijna nooit.
- ◯ Nooit.

10. Zoekt u eerst informatie op het internet alvorens een specialist te raadplegen?

- ◯ Altijd.
- ◯ Vaak.
- ◯ Soms.
- ◯ Bijna nooit.
- ◯ Nooit.

11. Zoekt u eerst informatie op het internet alvorens uw apotheek te raadplegen?

- ◯ Altijd.
- ◯ Vaak.
- ◯ Soms.
- ◯ Bijna nooit.
- ◯ Nooit.

12. Hoe betrouwbaar acht u de informatie die u zelf op het internet vindt?

- ◯ Heel betrouwbaar.
- ◯ Betrouwbaar.
- ◯ Neutraal.
- ◯ Onbetrouwbaar.
- ◯ Heel onbetrouwbaar.

13. Waar let u op als u medische informatie op het internet beoordeelt op betrouwbaarheid?

- ◯ Ik ga er van uit dat de teksten op het internet betrouwbaar zijn.
- ◯ Of ik de tekst begrijp.
- ◯ Of de tekst veel medische termen bevat
- ◯ Van wie of welke organisatie de tekst afkomstig is.
- ◯ Wie de tekst heeft geschreven.

Anders, namelijk:

14. Ik controleer bij medische teksten die ik op het internet vind altijd wie de schrijver is of welke organisatie er verantwoordelijk voor is.

- ◯ Ja.
- ◯ Nee.

15. Hoe staat u tegenover de informatie die u krijgt bij een bezoek aan uw huisarts?

- ◯ Zeer positief.
- ◯ Positief.
- ◯ Neutraal.
- ◯ Negatief.
- ◯ Zeer negatief.

16. Hoe staat u tegenover de informatie die u krijgt bij een bezoek aan uw specialist?

- ◯ Zeer positief.
- ◯ Positief.
- ◯ Neutraal.
- ◯ Negatief.
- ◯ Zeer negatief.

17. Hoe staat u tegenover de informatie die u krijgt bij een bezoek aan uw apotheek?

- ◯ Zeer positief.
- ◯ Positief.
- ◯ Neutraal.
- ◯ Negatief.
- ◯ Zeer negatief.

18. Hoe groot is de kans dat u na een bezoek aan de huisarts op zoek gaat naar aanvullende informatie op het internet?

- ◯ Zeer groot.
- ◯ Groot.
- ◯ Neutraal.
- ◯ Klein.
- ◯ Zeer klein.
- ◯ Niet aanwezig.

19. Hoe groot is de kans dat u na een bezoek aan een specialist op zoek gaat naar aanvullende informatie op het internet?

- ◯ Zeer groot.
- ◯ Groot.
- ◯ Neutraal.
- ◯ Klein.
- ◯ Zeer klein.
- ◯ Niet aanwezig.

20. Hoe groot is de kans dat u na een bezoek aan de apotheek op zoek gaat naar aanvullende informatie op het internet?

- ◯ Zeer groot.
- ◯ Groot.
- ◯ Neutraal.
- ◯ Klein.
- ◯ Zeer klein.
- ◯ Niet aanwezig.

21. Wijkt u wel eens af van de voorgeschreven behandeling van uw arts op basis van informatie die u zelf op het internet gevonden heeft?

- ◯ Altijd.
- ◯ Soms.
- ◯ Zelden.
- ◯ Nooit.

22. Er volgen nu enkele stellingen over zelf medische informatie zoeken op het internet. U kunt antwoorden op een schaal van 1 tot 5 waarbij de 1 staat voor helemaal mee eens en de 5 voor helemaal mee oneens. Vink de cirkel aan die uw mening het best weergeeft.

	Helemaal mee eens.	Mee eens.	Neutraal.	Mee oneens.	Helemaal mee oneens.
Het heeft veel voordelen om zelf medische informatie te zoeken op het internet.	◯	◯	◯	◯	◯
Een van de grootste pluspunten van het zoeken naar medische informatie op het internet, is dat mijn anonimiteit gewaarborgd blijft.	◯	◯	◯	◯	◯
Met de informatie die ik op het internet vind kan ik zelf een diagnose stellen.	◯	◯	◯	◯	◯
Als ik zelf een diagnose stel op grond van informatie die ik op het internet heb gevonden dan is de kans groot dat die diagnose correct is.	◯	◯	◯	◯	◯
Als ik zelf een diagnose heb gesteld is de kans groot dat ik zelf bijpassende medicijnen bestel op het internet.	◯	◯	◯	◯	◯
Door zelf informatie online te zoeken vergroot ik de kans op een verkeerde diagnose.	◯	◯	◯	◯	◯
Mensen zonder medische opleiding hebben niet genoeg kennis om de medische informatie die ze zelf online vinden op waarde te beoordelen.	◯	◯	◯	◯	◯
Door zelf online een gezondheidsdiagnose te stellen, heb ik een verhoogde kans om gezondheidsproblemen te ontwikkelen.	◯	◯	◯	◯	◯
Door de aanwezigheid van onbetrouwbare informatie op het internet maak ik me zorgen over het risico	◯	◯	◯	◯	◯

van het maken van een verkeerde diagnose.					
Door de aanwezigheid van onbetrouwbare informatie op het internet is de kans groot dat ik in het komende jaar gezondheidsproblemen ontwikkel.	◯	◯	◯	◯	◯
Gezondheidsproblemen veroorzaakt door een zelf gekozen behandeling op het internet, kunnen zeer serieus zijn.	◯	◯	◯	◯	◯
Gezondheidsproblemen veroorzaakt door een zelfgekozen online behandeling doen mijn hart sneller kloppen.	◯	◯	◯	◯	◯
Zelf online een behandeling zoeken naar aanleiding van een zelfgestelde diagnosis is nadelig voor mijn gezondheid.	◯	◯	◯	◯	◯
De gedachte aan een verkeerde diagnosis maakt me bang.	◯	◯	◯	◯	◯

Appendix II: Quasi experiment texts and questions

Text 1: complex & reliable

Een steen in de urinewegen

Wat zijn urinestenen?

In de urine zitten opgeloste afvalstoffen, zoals calciumoxalaat en calciumpyrruvaat die met het plassen worden afgevoerd. Als afvalstoffen niet helemaal in de urine oplossen omdat ze het oplossingsproduct ov3rschrijden, kunnen in het nierbekken kristallen of steentjes ontstaan. Dit noemen we urinestenen (of urolithiasis). Urinestenen komen vaak voor. Waarom ze bij sommige mensen ontstaan en bij andere niet, is niet helemaal duidelijk. Er lijkt een familiaire tendens te zijn.

Wat zijn de verschijnselen van een urinesteenaanval?

U krijgt plotseling heftige pijn in uw zij of in uw buik. De pijn komt in golven. Dit noemen we koliekpijn. Tijdens een koliek is er sprake van bewegingsdrang. U kunt hierbij misselijk zijn en overgeven. Omdat de urinesteen langzaam door de urether (urineleider) naar de blaas toe schuift, verplaatst de pijn zich ook geleidelijk van uw zij naar de zijkant van uw buik of naar uw onderbuik. Meestal komt de steen na enkele dagen in de blaas, waarna de klachten bijna altijd over zijn. De steen wordt een paar dagen later uitgeplast, soms pas na enkele weken. Omdat de plasbuis wat wijder is dan de urineleider, doet het uitplassen meestal geen pijn meer. Vaak merkt u dat niet eens. Als er een steen in de urinewegen zit, kan er een beetje bloed in uw plas zitten. Dit is bij onderzoek van de urine te zien. Soms is uw plas dan ook roze van kleur.

Adviezen

Gebruik een theezeefje om door te plassen. U kunt ook in een potje plassen en de urine daarna zeven. Dan kunt u de steen opvangen en weet u zeker of u de steen heeft uitgeplast. Bovendien kunt u de steen dan laten onderzoeken om te zien welke mineralen het belangrijkste bestanddeel zijn. Voor de verdere behandeling kan het soms helpen te weten wat voor soort steentje het is. Tot u de steen heeft uitgeplast, is het beter om niet extra veel te drinken om dat teveel druk op de urther opnieuw een pijnaanval kan provoceren. Nadat de steen is uitgeplast, is het belangrijk dat u juist wel veel gaat drinken. Veel drinken helpt de urine te verdunnen en de neerslag van afvalproductin van de stofwisseling te verkleinen. Daardoor vermindert de kans op het ontstaan van nieuwe urinestenen. Maak er een gewoonte van om ten minste twee liter per dag te drinken. Een speciaal dieet is niet nodig.

Text 2: simple & unreliable

Wat is HPU?

HPU staat voor hemopyrrolurie en duidt op een situatie waarbij het lichaam een bepaalde stof, HPL genaamd, via de urine uitscheidt. Deze uitscheiding, die bij lichamelijke inspanning toeneemt, gaat gepaard met verlies van voornamelijk zink, mangaan en pyridoxaal-5-fosfaat (actieve vitamine B6) en komt meer bij vrouwen dan bij mannen voor. Pyrrolurie, de meer algemene internationale naam, staat in de literatuur ook bekend als pyrrolurie of "Pfeiffer disease". Deze laatste naam zorgde voor veel verwarring met de Ziekte van Pfeiffer die wij al kennen en elders 'kissing disease' of mononucleosis wordt genoemd. HPU wordt medisch ingedeeld bij een groep ziekten die porfyrinurie worden genoemd.

Ernstige tekorten

HPU is genoemd naar het stofje dat bij patiënten wordt aangetroffen in de urine: het HPL ofwel hemopyrrollactam-zinkchelaatcomplex. De officiële naam is nog veel ingewikkelder. Deze stof bindt enkele belangrijke bouwstoffen aan zich zoals vitamine B6, zink en mangaan, en verwijdert deze ten onrechte uit het lichaam. Vitamine B6 is een vitamine die betrokken is bij een groot aantal processen in het lichaam, zoals de stofwisseling van koolhydraten en vetten. Van het mineraal zink is onder meer bekend dat het de weerstand vergroot. Mangaan is ook een mineraal en is bij onder andere de suikerstofwisseling, darmfuncties en de vorming van kraakbeen een heel belangrijke stof. Doordat HPL deze voedingsstoffen aan zich bindt, ontstaan tekorten in het lichaam.

Vage klachten

De tekorten kunnen leiden tot tal van gezondheidsklachten. Zoals chronische vermoeidheid, menstruatiestoornissen, lage bloedsuikers, prikkelbare darm, verstopping/diarree, huiduitslag, zwangerschapsklachten, bloedarmoede, bloeddrukproblemen, overbeweeglijkheid van de gewrichten en gewrichtsproblemen (bekkeninstabiliteit), spierzwakte, terugkerende infecties, verminderde vruchtbaarheid, overgewicht(na zwangerschappen), krampaanvallen, hart- en vaatziekten, slaapstoornissen, migraine, depressiviteit, allergieën en voedselintolerantie. Uiteraard is het niet zo dat iedereen met één of meer van deze klachten HPU heeft. Maar naarmate je meer symptomen herkent, is de kans wel groter dat een HPU-urinetest een positieve uitslag oplevert.

De behandeling

Het lijkt er op dat alle gevolgen van HPU in principe zijn te voorkomen met tijdige behandeling op basis van voedingssupplementen die er voor zorgen dat het lichaam minder HPL aanmaakt. Daarnaast zijn ontstane klachten veelal te genezen. Het vitamine- en mineralengebrek kan niet worden opgeheven door het eten van voedsel dat rijk is aan vitamine B6, zink en mangaan, omdat het teveel aan HPL de extra vitamine B6, zink en mangaan zo weer uit het lichaam verwijdert. De

basisbehandeling omvat dagelijks een geringe hoeveelheid pyridoxaal-5-fosfaat, zink en mangaan, maar daarnaast vooral supplementen die het HPL verlagen..

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Text 4: complex & unreliable

Wat is HPU?

HPU staat voor hemopyrrolurie en duidt op een situatie waarbij het lichaam een bepaalde stof, HPL genaamd, via de urine uitscheidt. Deze uitscheiding, die bij belasting toeneemt, gaat gepaard met verlies van voornamelijk zink en pyridoxaal-5-fosfaat (actieve vitamine B6) en komt meer bij vrouwen dan bij mannen voor. Pyrrolurie, de meer algemene internationale naam, staat in de literatuur ook bekend als pyrrolurie of "Pfeiffer disease". Deze laatste naam zorgde voor veel verwarring met de Ziekte van Pfeiffer die wij al kennen en elders 'kissing disease' of mononucleosis wordt genoemd. HPU hoort in de periode van de grotere uitscheiding tot de porfyrinurie.

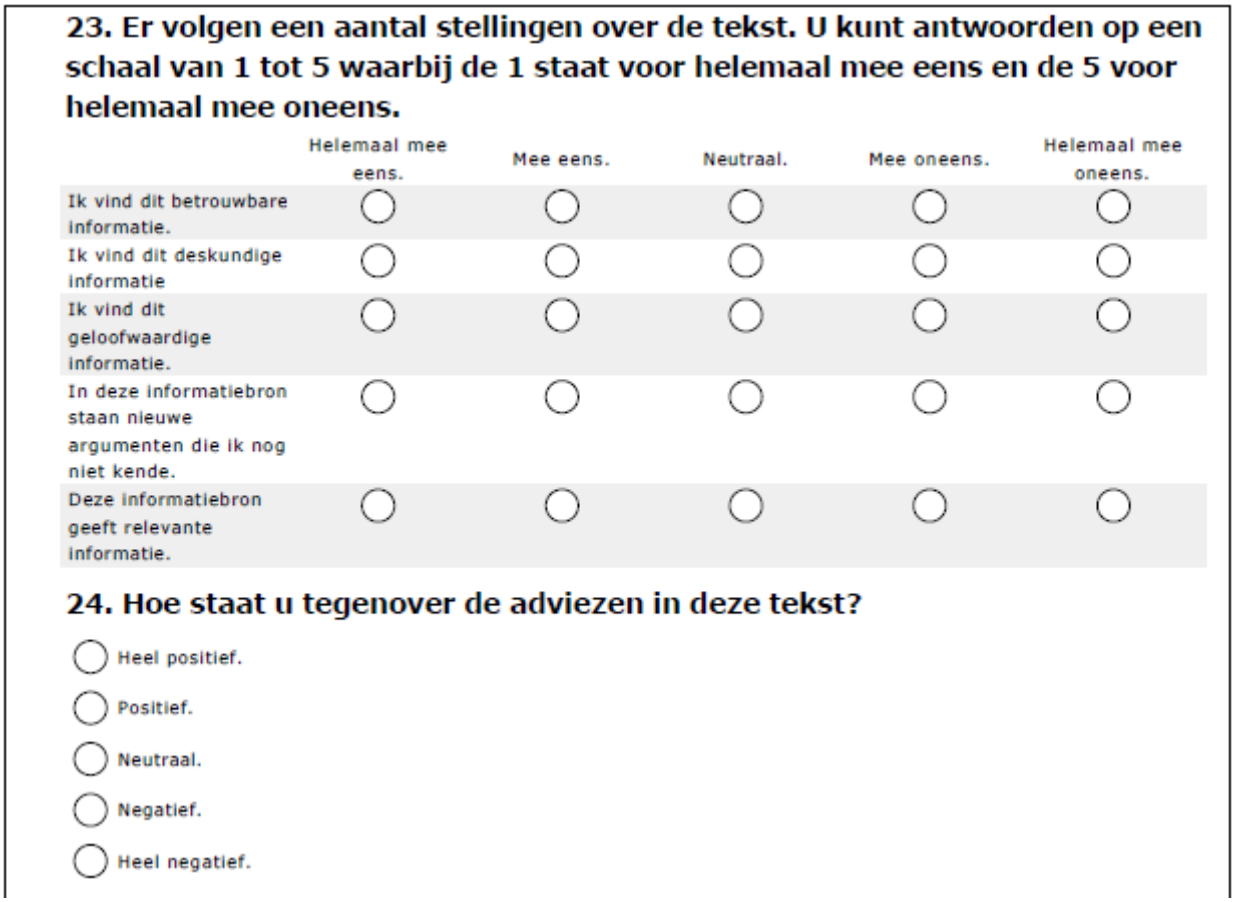
Ernstige tekorten
HPU is genoemd naar het stofje dat bij patiënten wordt aangetroffen in de urine: het hemopyrrollactam-zinkchelaatcomplex. De officiële naam is nog veel ingewikkelder. Dit complex vangt enkele belangrijke bouwstoffen weg:Pyridoxaal-5-fosfaat. Dit is de 'actieve' vorm van vitamine B6. Een vitamine die betrokken is bij een groot aantal processen in het lichaam, zoals de stofwisseling van koolhydraten en vetten. Zink. Van dit mineraal is onder meer bekend dat het de weerstand vergroot. Mangaan. Bij onder andere de suikerstofwisseling, darmfuncties en de vorming van kraakbeen is dit mineraal een cruciale factor. Doordat hemopyrrollactam-complex deze voedingsstoffen aan zich bindt, ontstaan tekorten in het lichaam.

Vage klachten
De tekorten kunnen leiden tot tal van gezondheidsklachten. Zoals chronische vermoeidheid, menstruatiestoornissen, hypoglykemie, prikkelbare darm, verstopping/diarree, huiduitslag, zwangerschapsklachten, bloedarmoede, bloeddrukproblemen, overbeweeglijkheid van de gewrichten en gewrichtsproblemen (bekkeninstabiliteit), spierzwakte, terugkerende infecties, verminderde vruchtbaarheid, overgewicht(na zwangerschappen), krampaanvallen, hart- en vaatziekten, slaapstoornissen, migraine, depressiviteit, allergieën en voedselintolerantie. Uiteraard is het niet zo dat iedereen met één of meer van deze klachten HPU heeft. Maar naarmate je meer symptomen herkent, is de kans wel groter dat een HPU-urinetest een positieve uitslag oplevert.

De behandeling
Het lijkt er op dat alle gevolgen van HPU in principe zijn te voorkomen met tijdige behandeling op basis van voedingssupplementen. Daarnaast zijn ontstane klachten veelal te genezen. Het vitamine- en mineralengebrek kan niet worden opgeheven door het eten van voedsel dat rijk is aan vitamine B6, zink en mangaan, omdat de tekorten in het lichaam daarvoor te groot zijn. De

basisbehandeling omvat dagelijks een geringe hoeveelheid pyridoxaal-5-fosfaat, zink en mangaan.

Quasi experiment questions



23. Er volgen een aantal stellingen over de tekst. U kunt antwoorden op een schaal van 1 tot 5 waarbij de 1 staat voor helemaal mee eens en de 5 voor helemaal mee oneens.

	Helemaal mee eens.	Mee eens.	Neutraal.	Mee oneens.	Helemaal mee oneens.
Ik vind dit betrouwbare informatie.	◯	◯	◯	◯	◯
Ik vind dit deskundige informatie	◯	◯	◯	◯	◯
Ik vind dit geloofwaardige informatie.	◯	◯	◯	◯	◯
In deze informatiebron staan nieuwe argumenten die ik nog niet kende.	◯	◯	◯	◯	◯
Deze informatiebron geeft relevante informatie.	◯	◯	◯	◯	◯

24. Hoe staat u tegenover de adviezen in deze tekst?

- ◯ Heel positief.
- ◯ Positief.
- ◯ Neutraal.
- ◯ Negatief.
- ◯ Heel negatief.

HPU related questions:

25. Als u vermoedt dat u HPU heeft, bent u meer geneigd om een dokter te raadplegen na het lezen van deze tekst.

- ◯ Helemaal mee eens.
- ◯ Mee eens.
- ◯ Neutraal.
- ◯ Mee oneens.
- ◯ Helemaal mee oneens.

26. Als u vermoedt dat u HPU heeft, zou u dan informatie over HPU zoeken op het internet?

- ◯ Ja.
- ◯ Nee.

27. Als u vermoedt dat u HPU heeft zou u dan sowieso een arts raadplegen?

- ◯ Ja.
- ◯ Nee.

Kidney stones related questions:

25. Als u vermoedt dat u nierstenen heeft, bent u meer geneigd om een dokter te raadplegen na het lezen van deze tekst.

- ◯ Helemaal mee eens.
- ◯ Mee eens.
- ◯ Neutraal.
- ◯ Mee oneens.
- ◯ Helemaal mee oneens.

26. Als u vermoedt dat u nierstenen heeft, zou u dan informatie over nierstenen zoeken op het internet?

- ◯ Ja.
- ◯ Nee.

27. Als u vermoedt dat u nierstenen heeft zou u dan sowieso een arts raadplegen?

- ◯ Ja.
- ◯ Nee.