

Scared of Infections

A qualitative Research and Mental Models Approach
on Toxoplasmosis

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Samenvatting

Achtergrond: Een zoönose is een ziekte die van dier naar mens kan worden overgedragen. Toxoplasmose is een bekende zoönotische infectieziekte die vooral voor mensen met een verzwakt immuunsysteem en voor zwangere vrouwen en het ongeboren kind ernstige gevolgen kan hebben. Op dit moment is nog weinig bekend over de kennis en mentale modellen die de algemene nederlandse bevolking over Toxoplasmose heeft. Het doel van dit onderzoek is de mentale modellen van de nederlandse bevolking met betrekking tot preventie, verspreiding, herkomst, risicofactoren, consequenties, behandeling en informatiebehoefte van Toxoplasmose te achterhalen. Dit is van belang om toekomstig de risicocommunicatie op de bestaande mentale modellen te laten aansluiten.

Methode: Het kwalitatief onderzoek wordt met behulp van semigestructureerde interviews uitgevoerd. Nederlandse mensen vanaf 18 jaar uit het algemene publiek worden geïnterviewd over zeven thema's met betrekking tot Toxoplasmose. Op basis van de verschillende onderdelen van de gesprekken worden de interviews thematisch geanalyseerd. De gegeven antwoorden worden vervolgens op juistheid nagekeken door ze met een expert model te vergelijken.

Resultaten: De antwoorden en codes laten zien dat bij alle respondenten (n=9) denkfouten over Toxoplasmose bestaan. Verder wordt duidelijk dat de geïnterviewde personen op alle zeven domeinen nauwelijks kennis hadden over details met betrekking tot de ziekte. In de interviews is naar voren gekomen dat mensen informatie graag op websites in het internet opzoeken als ze iets over een ziekte willen weten.

Discussie: De resultaten laten zien dat de mentale modellen van de algemene bevolking erg verschilt van het expert model. Dit onderzoek kan als basis voor verder kwantitatief onderzoek worden gebruikt. Door gebruik te maken van het Health Belief Model en Persuasive System Design zou een website kunnen worden gemaakt waarop belangrijke informatie over Toxoplasmose wordt verspreid. Door gebruikersprofielen te creëren kan de informatie die op de website wordt gepresenteerd juist worden toegepast op de verschillende bezoekers. Dit is een mogelijke manier om de risicocommunicatie te kunnen verbeteren.

Abstract

Background: Zoonosis are diseases that are naturally transmissible from vertebrate animals to humans and vice versa. The risk of such a zoonotic disease, like Toxoplasmosis which is caused by the single-celled parasite *Toxoplasma gondii*, is higher for people who have a weakened immune system from disease or medication. The immune system of pregnant women, children or elderly people is also often compromised and thus not fully functional. At the present moment there is less known about people's beliefs and knowledge about Toxoplasmosis. This research aims to find out what the Dutch general public's conceptions and beliefs with regard to Toxoplasmosis are. This knowledge is important to adjust the risk communication to the public. By knowing how people perceive a given risk and how they build mental representations of it, it gets possible to design and develop effective interventions to change and modulate a person's health-related behaviour.

Method: Through semi-structured interviews with respondents (n=9) information about people's knowledge about zoonosis, their spreading, perceived risk, treatment and prevention measures should be gathered. To process the gathered information a thematic analysis is applied and codes were made. The found codes were compared to an expert model to define them as correct or incorrect beliefs.

Results: The study shows that approximately the half of the Dutch general public knows the most basic facts concerning prevention. Many misconceptions do exist with regard to the ways how it can be spread between animals, humans and other different hosts. Basic facts about the Origin of Toxoplasmosis and about Risk Factors seem to be well-known by the respondents. With regard to the consequences following from an infection with the disease correct conceptions were not stated by the majority of the Dutch respondents. The Dutch general public seems not to be well informed about treatment procedures and possibilities.

Discussion: The results show that the mental models of the general public are different to the expert model. In order to improve the Dutch general public's health related behaviour with regard to Toxoplasmosis the Health Belief Model can form the basic structure to take action. To deal with the general public's information needs implementing an e-health design, such as an website, to spread information seems to be a useful way. The usage of Persuasive System Design can help to make a website exactly tailored to the target group. Spreading adjusted information is necessary to adjust the risk communication to the conceptions of the public and therefore make it useful to change their behaviour and perception.

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1. Introduction

In daily life it is normal and unavoidable that people and animals share living room, act together or otherwise get in touch with each other, may it be directly or indirectly, spreading of infectious zoonotic diseases is possible and even likely (Daszak, Cunningham, & Hyatt, 2001). These zoonotic infections are diseases that are naturally transmissible from vertebrate animals to humans and vice versa and are called Zoonosis (Decker et al., 2010). There exist different modes how a zoonosis can be transmitted. A zoonotic disease can be transmitted directly through a media such as the air, a bite or saliva of the infected animal. On the contrary a zoonosis can be transmitted in an indirect way via an intermediate species, a vector. The vector is an organism that carries the disease pathogen without getting infected itself. The case that a human infects an animal with a zoonotic disease is called anthroponosis (Dictionary of Medicine and Human Biology, 2015). Various different sorts of disease pathogens such as bacterial, viral or parasitic pathogens may cause zoonosis and can infect animals and persons. Zoonosis can also involve unconventional agents that do not belong to the former descriptions (World Health Organization, 2015).

Globalization, climate change, increased trade and traffic, urbanization, economical and biotechnical developments and several other reasons seem to be accelerating for the emergence of new zoonotic pathogens (Slingenbergh, Gilbert, Balogh, & Wint, 2004). Encroachment of humans into wilderness or movement of wild animals into areas of human activity cause increased contact between humans and wildlife. This increased contact can be a further contributing factor to the appearance of zoonotic diseases in human population (Daszak et al., 2001). By combining the events where humans and animals get in contact with each other, for example having a pet, living on a farm or visiting a petting zoo, with the possible modes of transmission, for example through saliva by biting, through scratches from an infected animal or through eating food made from infected animals, it gets clear that there are numerous possible ways of getting infected with such a disease.

The severity of an infection with a zoonotic disease in humans can occur in various different degrees. It can vary from subclinical infection and mild symptoms to life-threatening conditions (Scientific Report of EFSA and ECDC, 2015). Moreover do differences in risk to get infected with a zoonotic disease exist between people. A compromised immune system is one of the two main factors that increase the risk of getting ill. The risk is higher for people who have a weakened immune system from disease or medication, such as persons with HIV or persons receiving a chemotherapy or radiation therapy (Solomayer et al., 2003). Also the

immune system of pregnant women, children or elderly people is often compromised and thus not fully functional. The second main factor that increases the risk of getting infected with a zoonosis is close contact with animals. People like pet owners, animal health providers, farmers and livestock producers can be at increased risk for zoonotic diseases (Iowa State University: The Center for Food Security and Public Health).

The full range of possible severity of symptoms can be seen in different cases of individuals being infected with Toxoplasmosis. Toxoplasmosis is a disease, which is caused by the single-celled parasite *Toxoplasma gondii*. The parasitic organism can infect most animals and birds, but reproduces only in cats. Therefore all felines, not matter if wild or domestic, are the ultimate host of the parasite *Toxoplasma gondii*. Feline animals who are fed with raw meat or who hunt are most likely to host the parasite. The disease belongs to the group of zoonosis because also humans can infect with it through many different ways, for instance to come in contact with cat's faeces that contain the parasite, to eat or drink contaminated food or water or to receive an infected organ transplant (Rijksinstituut voor Volksgezondheid en Milieu, 2015). Generally healthy people who are infected with Toxoplasmosis often do not have symptoms because their well functioning immune system keeps the parasite from causing illness. However, individuals who have a compromised immune system, an infection with Toxoplasmosis can cause serious symptoms and health problems. Infants of mothers who are infected with the parasite during pregnancy, elderly people, or individuals with Aids or taking certain types of chemotherapy belong to the group whose immune system is severely weakened and consequently at higher risk than healthy people. The symptoms can range from headache, fever, and swollen lymph nodes to lung problems, seizures and/or an enlarged liver or spleen in babies (Rijksinstituut voor Volksgezondheid en Milieu, 2015).

The timeliness and serious extent of the topic zoonosis became visible in the outbreak of *E. coli* O104:H4 in Germany in May 2011. The symptoms and consequences ranged from abdominal cramps, bloody diarrhea, and dysfunctional kidneys. At the end of June 2011 also 39 cases of death are reported (Bielaszewska et al., 2011). With regard to this currently happened case of a zoonotic outbreak the questions arises how it is possible that in these modern and enlightened times still so many people get infected with such a disease? Why and how can an infection spread so fast and far even though enough information and possibilities are available to protect oneself from the pathogen? Parts of the answer can be found when looking at the way people form risk perceptions. Further it is necessary to have a look at the possibilities of what can be done to decrease the number of cases of zoonotic infections.

The first big step towards containment of zoonosis outbreaks can be made through sufficiently adapted health surveillance. Belonging to this it seems to be an important part of zoonosis control to compensate farmers for culled livestock to let them feel that they are an important part of the whole system. Transitional countries often cannot take these payments and organisational aspects because of their lack of human and financial resources, thus they are not able to conduct surveillance programs in an efficient manner (Zinsstang et al., 2007).

A second big step towards containment of zoonosis outbreaks can be made through an effectively working health communication system. The term health communication includes the study and use of specific methods to educate the public about diseases. It is about how to inform and influence individual's or community's decision to enhance their state of health. Communication methods are used to increase public awareness, change people's attitudes about a disease and/or to change the public's behaviour to control an emerging disease (Freimuth, Linnan, & Potter, 2000). When there is a general understanding about disease, its causes and treatment it is possible that the public will adapt health-enhancing behaviour and thereby helping to prevent an outbreak of zoonosis.

To assess the severity and characteristics of a hazard people tend to form a subjective judgement about it. These judgements form the person's subjective perception of that risk. The way people respond to a hazard or how they behave when it occurs is influenced by their risk perception (Mileti, 1993). Risk perception is used and gets influenced by many different interacting factors such as the societal risk response (Kasperson, Kasperson, Pidgeon, & Slovic, 2003), the cultural milieu in which the individual lives (Douglas, 2013) and also through the characteristics of the risk itself (Slovic, 1987).

The societal response is a description of the range of formal and informal agencies of social control. It includes the quantity and quality of information given by the media, the police, the law and also nongovernmental organizations, the actions taken by risk management agencies, the public's and family's perception of these agencies and the hazard itself (Decker et al., 2010). With attention to the quantity and quality of the information given by the media, it seems to have major influence on the people's risk perception because frequent media exposure gives rise to a high level of perceived risk (Sjöberg, 2000).

Not only the societal response has influence on the risk perception, but also the individual's culture affects the judgements about a hazardous event. This comes through the fact that cultures condition their members to attend to different things and to value several interactions, objects and relationships in different ways than others. It is evident that cultural

aspects predispose individuals to think in cultural congruent ways (Weber & Hsee, 1998). Individuals tend to think in certain ways about the hazards associated with special events. These predispositions lead to cultural differences in risk perception and do not only vary between people from different cultures but can also vary between people from the same culture. People from the same culture can differ in their risk perceptions because some rely on the learned predispositions more strongly than others. In essence they rely on the predispositions to different degrees (Decker et al., 2010).

The characteristics of the risk itself do also influence the public's risk perception. These characteristics include the spatial proximity and how far reaching the risk's spreading can be. Another important point about risk perception with regard to the characteristics of the risk itself is whether the hazardous event or risk is visible to the public and how severe the effects of it can be. Furthermore the way in which the risk affects the public and if it has fatal consequences plays an important role in the forming of risk perception. Another influencing characteristic is the time delay between the event self and the point in time when the effects of it get noticed; effects can come immediately or delayed (Slovic, 1992).

A person's subjective perception of a risk can partially be a component of the general perception of the world he/she holds. On the basis of these general perceptions and also representations mental behaviour models are constructed to describe, understand and forecast human behaviour. Further behavioural change models give an attempt to describe why and how behaviour of one person changes and thus play an important role in the multi-disciplinary field of public health.

All of us form representations of the external reality to understand and reason about the different parts and processes, which take place and interact in the surrounding world and the daily life. These internalized explanations and mental models about how something works are constructed from imagination, experiences, perceptions and individual comprehension of discourse (Byrne & Johnson-Laird, 1989). They are built from relevant beliefs and gained knowledge and thus often combine true and false assumptions about something. The attitudes and beliefs about the external world people form are based on their personal experiences, interactions with their surrounding or exposure. These experiences can be made firsthand or be vicariously through observation, the media or stories told by other people. With other words do mental models reflect the beliefs, the values, and the assumptions that individuals personally hold based on information, may it be right or wrong, they gained through different channels. Further do the constructed mental behaviour models underlie our reasons for doing

things the way we do (Groessera & Schaffernicht, 2012). They exist with the purpose to help us answering questions and to deal with a range of different situations, real or imaginary ones (Johnson-Laird & Byrne, 1991). These representations of our surroundings can also set an approach to solve problems (Vosniadou & Brewer, 1992). Given these points mental models form the basis on that individuals can generate predictions and estimations about what could or should happen in various situations they come across in the real world (Collins & Gentner, 1987).

With regard to this it seems obvious that differences in such models do exist between experts and lay people. Experts base their views and opinions on scientific facts and pay attention to objective findings about a topic (Wynne, 1996). They build expert models that differ from other people's beliefs. In contrast to experts do lay people form their assumptions with support of their subjective experiences and general knowledge about something, which often leads to superficial and incoherent views (Damman & Timmermans, 2012). Different to experts a layperson has no specific or professional knowledge of a certain topic or subject to form their mental model. They pay more often attention to topics discussed in the media or base their views on information told by friends and family members, which also lack knowledge about scientific facts (Kinsella, 2002). Even if conceptions overlap to some degree, there exist significant differences in the value lay persons and experts assign to certain factors belonging to the topic. Lay persons often do not attach adequate weight to important aspects and information about the issue (Damman & Timmermans, 2012).

One example of a behavioural change model is the Health Belief Model developed by a group of social psychologists in the 1950s. The Health Belief model was originally developed to explain and predict preventive health-related behaviour and focused on the relationship of different interacting components, which modulate a person's behaviour with regard to health, illness, treatment and health behaviour. The model suggests that seven different, but connected constructs can help to explain engagement health-promoting behaviour as well as sick-role and illness behaviour (Rosenstock, 1974). These seven constructs include Modifying Variables (1), Perceived Seriousness (2), Perceived Susceptibility (3), Perceived Benefits (4), Perceived Barriers (5), Cues to Action (6), and Self-Efficacy (7). They have influence on a person's likelihood of engaging in health-promoting behaviour.

Cognitive bias influences an individual's subjective construction of social reality. Therefore each person perceives the seriousness, susceptibility, the benefits and barriers, and the self-efficacy differently. The judgements and decisions people make are not always

objective, logical and people do not evaluate all the information that is available to them. People have the tendencies to think in certain ways that often lead to decisions and actions that are far from rationality. A cognitive bias comes into action when people process and interpret information (Haselton, Nettle, & Andrews, 2005). These rules of thumbs and heuristics seem to simplify our way of information processing.

Out of this, the research question arises: To which extent does the average population have knowledge about zoonotic diseases and factors belonging to it? Having a look at the knowledge people have about zoonosis raises the sub-questions: To which extent do cognitive biases exist and influence the information processing and risk perception? Which mental models does the general public have? Regarding to these questions and the information described above the assumptions and hypotheses arise that people know too less about the spreading of zoonotic diseases (1), that they do not have enough knowledge about effective manners to prevent them from getting infected (2), and that they are influenced by cognitive biases when it comes to perceived susceptibility (3).

By knowing how people perceive a given risk and how they build mental representations of it, it gets possible to design and develop effective interventions to change and modulate a person's health-related behaviour. This can be realized by targeting various aspects of the seven key constructs of the Health Belief Model. There exist many different possibilities to put this into practice. One example might be to increase the perceived seriousness and perceived susceptibility. To reach this aim it may be logic and beneficial to provide useful information about prevalence, incidence and the consequences of a given zoonotic disease. A well structured website that is constructed to fit to the populations interests and important issues belonging to a given disease can be the medium to spread such information. To be able to design a website that is adjusted to the general population it is necessary to know what knowledge people have about zoonosis, how they process it, how they communicate about it and further how they build their mental representations of them. Factors that are contributing to the process of building such representations and models about a given infection need to be identified. To identify these necessary factors is the purpose of this study because they are basic components on which the website design can be build upon. Through interviews with respondents information can be gathered about the factors and processes in question. When (false) beliefs and mental models are detected, the way of presenting the right information can be adapted in a useful manner to offer it comprehensibly for the population. Thus the better we understand the audience for which the message is

intended, the greater the chance of developing an effectively working health communication.

The basis to these aims can be built on the answer given to the research question to which extent the average population has knowledge about Toxoplasmosis and factors belonging to this zoonotic disease.

2. Method

Research Design

Through semi-structured interviews with respondents (n=9) information about people's knowledge about zoonosis, their spreading, perceived risk, treatment and prevention measures should be gathered. The interview script is written in terms of an expert model, which is based on Fenne Verhoeven. The interview schema is build of seven main topics such as prevention, spreading, origin, risk factors, consequences, treatment and information needs. These main topics are further divided into different subquestions. The primary researchers did the interviews and they recorded the audio of these conversations. The interviews took place and were recorded in a location, quiet as possible at that moment, to prevent enormous distractions through external factors. Therefore the primary researchers carried out the interviews and no other persons were present while the procedure was taking place.

Participants

The target population of this research are dutch grown-ups from the age of 18 years up. They were randomly sampled, which means that each member of the population had the same probability of being selected. Despite the random sampling, the researchers were especially looking for persons older than 60 years and for pregnant women, because these belong to the group of people who are most at risk of getting infected with a zoonotic disease. The participants got recruited on street, in parks and in playgrounds in the Netherlands. Before starting the interview, participants had to fill in an informed consent so that the researchers can be sure that the recruited person fully understood the conditions and that the participation is voluntary. The collected information will be handled anonymously and no names or personal data of the participants will be made popular. Before the interview starts, the participant got a brief introduction on the interview-procedure and what he/she had to expect. Further it was explained that the interview takes 5-20 minutes and that it is about the topic "zoonosis", diseases which transmit between humans and animals. It was explained that there are no wrong or right answers and the participant will be given the chance to ask questions that are related to the procedure.

Analysis

To process the gathered information a thematic analysis is applied. By this the interview's contents got reduced, interpreted and reconstructed to find meaningful entities. The analysis is done with the transcribed audio recordings of the interviews. The computer program Excel assisted the researcher. The transcripts were coded by A.F. through systematically structuring the texts into parts belonging to different topics. To each topic the researcher assigned one colour and specific information belonging to that topic was marked in the specific colour. Through this the given information was organized and structured into different sections. Subsequently the researcher formulated general codes based on the given answers. This manner of working is helpful to uncover, code and systematically analyze words and phenomena in unstructured data like texts. The found codes were compared to an expert model to define them as correct or incorrect beliefs. In this research a thematic analysis is a necessary manner to find out what people generally know about zoonotic diseases and to which extent false beliefs do exist.

3. Results

Description of the participants

In total did nine participants (n=9) take part in the interviews. The age of all of them is 54 on the average and reaches from 21 years up to 77 years. Two of the participants are man and seven of them are women. The men are the two oldest participants and both of them do have children but no pets. Totally do three of all nine participants have pets at home. Two of the nine persons who participated in this research do not have children at the moment, but one of these women is pregnant and thus expecting to have a child in the near future. Six participants are highly educated and went to college or university.

Table 1.1 *Gender and Age of Participants*

	Age		Gender	
	Min	Max	Man	Woman
Mean	21	77	2	7

Table 1.2 *Demographic Data of the Participants*

#	Gender	Age	Education	Pets	Pregnant	Children
1	Man	72	HBO	nee	nee	2
2	Vrouw	62	HBO	ja	nee	2
3	Vrouw	40	HBO Master	nee	nee	1
4	Man	77	Universitair	nee	nee	3
5	Vrouw	27	Universitair Master	nee	ja	0
6	Vrouw	62	Verpleegkundige	nee	nee	3
7	Vrouw	59	HBO	ja	nee	2
8	Vrouw	65	Secretaris en ING opleiding	nee	nee	2

9 Vrouw 21 Kynologisch ja nee 0
gedragstherapeut
(in opleiding)

Results with Regard to Prevention

Often did participants state more than one possible measure how to prevent themselves from getting infected with Toxoplasmosis. Five of them told that it generally has to do with cleanliness. This topic can be divided into different sections such as personal hygiene “Nou, handen meteen wassen, mensen niet gaan aanraken en als je weer thuis komt, moet je andere kleren aandoen en ja ik weet niet, dat zo dingen.” and the hygiene of the pets and their accessories. Furthermore did five participants state that it is important to avoid direct contact with excretion of animals “En ik zou niet met blote handen dat nou aanraken. Daar zou ik handschoenen aan doen, zeg maar. Tuinhandschoenen.”. Three participants made clear that they think it is useful to avoid contact with animals in general, especially when pregnant. In contrast to that did one person state that direct contact with animals is important to stay away from getting infected with Toxoplasmosis. According to this person does direct and close contact with animals help to build up a resistant immune system. Additionally to these statement did the quote came up that there is actually no possibility to prevention “Nou, ik denk dat er niet zoveel aan te doen is; dat je niet door bewust handelen kunt voorkomen.”.

Table 2.1 *Expected Behavior Patterns for Prevention*

Code	Respondent	Quote
eigen schoonheid/hygiëne	2, 3, 6, 7, 9	“Regelmatig schoon maken, alles goed schoon houden denk ik wel.”
geen directe contact met dieren hebben	3, 5, 6	“In ieder geval uit de buurt blijven.”
geen directe contact met uitwerpselen	3, 5, 7, 8, 9	“Dat je niet in aanraking komt met de uitwerpsels van de dieren. “
regelmatig contact hebben met dieren	4	“Het belangrijkste is dat je regelmatig in contact bent met dieren. Als je dus, dan ontwikkel je een degenstof, zodat je niet ziekt wordt.”
huisdieren schoon houden	2	“Zorgen dat je de poes ook gewoon goed borstelt denk ik.”

huisdiertoebehoren schoon houden	2	“Dus de WC goed schoonhouden.”
geen mogelijkheden om het te kunnen voorkomen	4	“Nou, ik denk dat er niet zoveel aan te doen is; dat je niet door bewust handelen kunt voorkomen.”

Results with Regard to Reservoir, Contamination and Spreading

As Table 2.2 shows did Three participants state that individuals get infected with Toxoplasmosis via touching animals that already have the disease “Dus als je het eenmaal aan je handen hebt en dan naar je mond, dat je dan eventueel besmet kan raken.”. Further three persons think that Toxoplasmosis may be an air-borne virus infection you can contaminate with via air, blood, eggs or worms “Dat kan natuurlijk door niezen, door druppelinfectie en door aanraking en door de lucht en door bloed.”. Seven out of the nine participants declared that individuals could get infected with such a disease through contact to faeces. Almost the half of the participants stated that Toxoplasmosis is transferable from humans to animals. Only one person thought that the disease can be transferred between animals. Three of the nine persons who took part in the interviews said that the disease is not transferable between humans.

Table 2.2 *Data about expected Reservoir, Contamination and Spreading*

Code	Respondent	Quote
via aanraking van dieren	1, 4, 5	“Ja, je krijgt het dus alleen als je in aanraking komt met katten.”
druppelinfectie	1	“Door niezen en hoesten.”
via bloed	1, 9	“Ehm, misschien als die kat iets bij zich draagt, en die krat je, dan door het bloed.”
via lucht	1	“Dat kan natuurlijk door niezen, door druppelinfectie en door aanraking en door de lucht en door bloed.”
uitwerpselen	2, 3, 4, 5, 7, 8, 9	“Ja doordat je natuurlijk met de ontlasting van de dieren in aanraking komt en je niet goed je handen wast en dan aan je gezicht zit of aan je mond of je neus.”

via beestjes	2, 3,	“Omdat ik denk dat dat zo’n beestje over kan sprengen.”
door wormpjes	2	“Volgens mij is het dat met die wormpjes, hè?”
via eitjes	2	“Dus ik denk als er iets over gebracht wordt van eitjes.”
van mens naar dier	1, 2, 3, 5	“Lijkt mij dat als een dier een mens kan besmetten dan andersom ook wel.”
niet van mens naar mens	4, 8, 9	“Het is niet van mens tot mens overdraagbaar.”
van dier naar dier	3	“Ja, kan ook tussen dieren worden overgedragen.”
geen kennis	6	“Ik weet niet over wat manier het overdraagbaar is.”

Results with Regard to the Origin

When having a look at the results of the section that is about finding out what the general public thinks about the origin of Toxolasmose, it is apparent that all respondents stated that cats are the main carriers of the disease. Cats are followed by dogs, about which seven participants stated that these are carriers of the infectious illness. One third of the consulted participants think that it is likely to get infected with such a disease at places where many animals live “Ja, vooral boerderijen dus omdat je daar veel dieren hebt.”, “Of in een dierenasiel.”. As Table 2.3 shows do six respondents estimate that the origin of the disease lies within rodents such as rats of mice or within guinea pigs. One out of the nine participants thinks that Toxoplasmose exists in water or mould. Another persons stated that she thinks that the chance of getting infected with this illness is higher in countries with poor hygiene standards such as third-world countries “In landen met een slechte hygiëne.”.

Table 2.3 *Data about expected Origin*

Code	Respondent	Quote
Vogels	1, 2	“Vogels, katten, honden, dat denk ik.”
Katten	1, 2, 3, 4, 5, 6, 7,8, 9	“Ja ik denk wel dat je, dat je een bacterie of virus op kunt lopen via een kat of een hond.”

Honden	1, 2, 3, 5, 6, 7, 9	“Honden en katten.”
Konijnen	5, 6, 7	“Katten, honden. Misschien konijnen.”
Knaagdieren	3, 8, 9	“Ratten, knaagdieren.”
Concentratie van dieren	1, 4, 6	“Ja, dat zou dan wel op de kinderboerderij of in een dierentuin.”
Thuis	1, 8	“Nog meer dan thuis? Anders dan thuis?”
In water	2	“Toxoplasmose is dat niet ook in water? In douches en zo.”
In schimmel	2	“Misschien zelfs in koelkasten, met die schimmel en zo.”
Derde wereld landen	3	“In landen met een slechte hygiëne.”
Bos	7	“Ja in een bos, ja.”

Results with Regard to Risk Factors

When asking the participants about expected risk factors and why some persons are at higher risk of getting infected with Toxoplasmose seven respondents answered that a weakened immune system increases the chance of getting ill. The persons stated that pregnant women, children and elderly persons are at greater risk because of their often not perfectly functioning immune system “Maar dat is meer omdat ze, omdat ouderen vaker, ja echt bejaarden zeg maar gewoon wat vatbaarder zijn om wat op te lopen. Het immuunsysteem is vaak minder, ja.”, “Ik weet dat zwangere mensen risico lopen.”. As Table 2.4 shows are according to four respondents people at higher risk of getting an infection, which often have contact with animals “Ja, ik denk dat als je veel omgaat met dieren die dat bij zich dragen dat je verhoogde kans maakt.”. In contrast to these statements did one participant say that the chances of getting infected are the same for all persons. One third of the participants thought that poor hygiene of living in a damp housing would enhance the risk of getting Toxoplasmose.

Table 2.4 *Data about expected Risk Factors*

Code	Respondent	Quote
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Vermindert weerstand	1, 2, 3, 4, 7, 8, 9	“Ja, als je minder weerstand hebt dan zou je toch vatbaar voor alles zijn en ook daarvoor.”
Contact hebben met dieren	1, 5, 6, 9	“Ja, mensen die dieren hebben, denk ik.”
Vies zijn/slechte hygiëne	2, 3, 6	“Ik denk mensen die heel vies zijn en niet zo goed schoonhouden.”
In vochtig woonruimte leven	2	“Of een vochtig huis hebben.”
Allergisch zijn	9	“Mensen die allergie hebben, bijvoorbeeld.”
Risico is voor iedereen hetzelfde	5	“Maar ik denk zelf dat of ik nou zwanger ben of niet dat de kans dat ik het krijg hetzelfde is.”

Results with Regard to Consequences

When the interview was about the expected consequences that can occur when somebody is infected with Toxoplasmosis, five participants said that not everybody shows symptoms when infected. They stated that individuals can be ill but do not feel any change “Nou ik denk dat misschien niet iedereen ziek wordt., automatisch. Dus als je besmet bent, dat je dan niet automatisch ziek wordt.”. As Table 2.5 shows said one out of the nine that possible consequences are itching and/or being contagious yourself. Two respondents gave the answers that infected persons get gastrointestinal problems and/or fever “Darmen en koorts.”. More than half of the participants stated that an infection with Toxoplasmosis while being pregnant can have negative effects on the child’s development “Misschien is dat slecht voor zwangere vrouwen, voor de baby, misschien?”. Two questioned persons think that an infected individual can die from Toxoplasmosis. Two other persons explained that the consequences are not equal for all infected individuals. Thus they state that the consequences differ from one person to the other “Ik denk bij de ene gaat het gewoon voorbij, maar andere die kunnen daar extreem ziek van worden.”

Table 2.5 *Data about expected Consequences*

Code	Respondent	Quote
Jeuk	1	“Maar als ik moet raden dan zal het iets zijn van jeuk of zo.”
Maag/darminfectie	2, 3	“Dat je enorme diarree krijgt.”
Koorts	3	“Darmen en koorts.”
Vermoeidheid	4	“Ja vermoeidheid is geloof is ook een verschijnsel.”
Niet iedereen vertoont per se ziektesymptomen	1, 2, 3, 4, 9	“Volgens mij kan je drager zijn zonder dat je symptomen hebt.”
Zelf besmettelijk zijn	1	“Als je besmet wordt door een besmettelijk virus, dan kun je dat natuurlijk zelf ook weer verder geven.”
Schade aan het ongeboren kind	3, 4, 5, 6, 8	“Naja misvorming van het kind.”
Gevolgen niet voor iedereen gelijk ernstig	5, 9	“Alleen de gevolgen verwacht ik dat bijvoorbeeld schadelijker is voor de persoon.”
Eraan overlijden	3, 4	“Ja, ik denk wel als je al een slechte weerstand heeft of een slechte gezondheid dat je dan wel aan dood kan gaan.”
Geen kennis over consequenties	6	

Results with Regard to Treatment Possibilities

When having a look at the results, which belong to the interview section about treatment of Toxoplasmose, eight different possibilities were stated by the participants. Two persons think that an infection with Toxoplasmose is treatable by living in a healthy and hygienic manner. More than half of the respondents said that you need to go to the doctor when you have the infectious disease. Five participants think that one has to take medications like antibiotics to treat the disease “Er is een behandeling mogelijk, ja, ja. Via de Malaria medicijnen.”. According to this one of these participants added the statement that you are not allowed taking drugs while pregnant, thus you may not take antibiotics “Normaalgesproken zou je denken aan een antibiotica als je ergens besmet mee bent. Maar dat mag je niet tijdens de

zwangerschap.”. Another person maintained that homeopathic remedies can help treating a disease such as Toxoplasmose. Two participants who took part in the interview said that it is useful to boost the immune system if one wants to fight an infection with Toxoplasmose. According to this vitamins and a cold shower every day can help to cure the disease “Ik douche elke dag koud, een beetje aan de hand van de ijsman.”. In one interview the statement came up that no special treatment is necessary to cure Toxoplasmose and that one just has to wait until it is over “Nou, ja het moet gewoon uitzieken en op gegeven moment gaat het weer over want dan heb je degenstoffen gemaakt en dan kun je, ja.”.

Table 2.6 *Data about expected Treatment Possibilities*

Code	Respondent	Quote
Naar een arts toe	1, 3, 5, 6, 9	“Als ik echt ziek was dan zou ik wel naar de doctor gaan.”
Medicijnen	1, 3, 4, 5, 8	“Ja, dan moet je denk ik...zou het misschien met medicijnen of antibiotica moeten.”
Zo snel mogelijk beginnen met behandeling	1, 9	“Zo snel mogelijk neem ik aan.”
Homeopathie	2	“Ga naar de homeopaat.”
Weerstand verbeteren	1, 2	“Ik denk dat het enige wat je kunt doen in der daad je weerstand oprecht houden. Misschien vitamines, ik weet het niet zo goed.”
Een gezond en/of hygiënisch leven leiden	1, 2	“En heel hygiënisch leven en ik denk zelf ook gewoon een goede voeding, je weerstand goed houden en dat soort dingen.”
Geen behandeling mogelijk	1	“Als het een virus is, is er natuurlijk geen genezing mogelijk.”
Geen behandeling nodig	4	“Nou, ja het moet gewoon uitzieken en op gegeven moment gaat het weer over want dan heb je degenstoffen gemaakt en dan kun je, ja.”
Geen kennis erover	7	

Results with Regard to Information Needs

The answers given to the questions belonging to information needs show clearly that the internet is mostly used when it comes to search for information. All nine respondents stated in their interviews that they (would) use the internet and appearing websites to gain information about something they want to know “Internet, dus, Wikipedia.”. One participant maintained that she would like to talk about the topic with someone who knows much about it, perhaps by experience the person made on their own. Another participant stated that he thinks that one can find enough in literature about it and he would read about the topic in an expert book. One participant would also ask the veterinarian for advice and information if she wanted to know something about Toxoplasmosis.

Table 2.7 *Data about Information Needs*

Code	Respondent	Quote
Internet	1, 2, 3, 4, 5, 6, 7, 8, 9	“Ik zou op internet zoeken. Als ik iets zoek, dan op google.”
Media	1	“Nee, ik weet daar alleen iets over wat ik zo lees in de media.”
Met andere verstandige mensen praten	2	“En of iemand die daar verstand van heeft, zou ik ook mee willen praten.”
Boeken	4	“Nou ja, er zijn handboeken genoeg voor, op medisch gebied. Waar je kunt opzoeken, wat je kunt doen.”
Artsen/Specialisten	7	“Bij de dierenarts natuurlijk.”
Besmetting	3	“Hoe kun je het oplopen?”
Symptomen	3, 5	
Behandeling	3, 6	“En wat moet je aan doen, wat is de behandeling?”

Results in Comparison with the Expert Model

When comparing the given answers from the participants with the information presented in the expert model it gets apparent that in sum many important aspects are known in the group of participants who took part in the research interview. When looking at the section about the origin, the fact that the reservoir of Toxoplasmosis lies in cats and consequently also in their faeces is well known by almost all questioned persons. They stated that the infection can be spread easily through the faeces and that one can get Toxoplasmosis almost everywhere where cats have access to. Most of them do also know that they can get infected when they have direct contact with the animal or their faeces and do not wash their hands thoroughly after it. Some of them stated that they wear gardening gloves when they want to remove excrements out of their garden, which matches with a part of the expert model. This act is also one of the possible prevention measures individuals can take. The fact that hygiene and washing hands after having contact to animals or their faeces is a useful way to protect oneself of getting infected was stated by many participants.

Almost all persons who took part in the interview know that there are specific groups of people who are at greater risk of getting infected with Toxoplasmosis. They know that the chances of getting infected is greater for people with a weakened immune system and people who work or live in an environment where many animals are present and they have contact to. Only one of the participants was aware about the fact that one can develop antibodies to the disease. This statement matches with the part of the expert model in which it gets explained that one can be immune to Toxoplasmosis through developing antibodies after an earlier infection with the disease. The participants did also know that the consequences are different between persons and that they depend on the person's immune system functioning. More than half of the questioned respondents have knowledge about the fact that an infection with Toxoplasmosis can have influences on the child's development if a woman got infected while she was pregnant. They knew that it could lead to brain damage of the unborn child.

Table 2.8 *Incorrect and Correct Beliefs*

Concepts from the Expert Model	Incorrect Beliefs	Number of Respondents	Correct Beliefs	Number of Respondents
Prevention	Regelmatig Contact hebben met dieren	1/9	Eigen schoonheid/hygiene	5/9
	Geen mogelijkheden om het te kunnen voorkomen	1/9	Geen directe contact met dieren hebben	3/9
			Geen directe contact met uitwerpselen	5/9
			Huisdieren en/of huisdierentoebehoren schoon houden	1/9
Reservoir, Contamination and Spreading	Via druppelinfectie	1/9	Via uitwerpselen	7/9
	Via bloed	2/9	Via aanraking van dieren	3/9
	Via lucht	1/9	Van dier naar dier	3/9
	Via beestjes	2/9	Niet van mens naar mens	3/9
	Van mens naar dier	4/9		
	Door wormpjes	1/9		
Origin	In schimmel	1/9	Katten	9/9
	Derde wereld landen	1/9	Honden	7/9
	Bos	1/9	Vogels	2/9
			Konijnen	3/9
			Knaagdieren	3/9
			Concentratie van dieren	3/9
Risk Factors	In vochtig woonruimte leven	1/9	Vermindert weerstand	7/9
	Risico is voor iedereen	1/9	Contact hebben met dieren	4/9
	Allergisch zijn	1/9	Vies zijn/slechte hygiene hebben	3/9

Consequences	Jeuk	1/9	Niet iedereen	5/9
	Maag/Darminfectie	2/9	vertoont per se ziektesympomen	
	Vermoeidheid	1/9	Koorts	1/9
	Zelf besmettelijk zijn	1/9	Eraan overlijden	2/9
			Schade aan het ongeboren kind	5/9
			Gevolgen niet voor iedereen gelijk ernstig	2/9
Treatment Possibilities	Een gezond leven leiden	2/9	Naar een arts toe	5/9
	Homeopathie	1/9	Medicijnen	5/9
	Weerstand verbeteren	2/9	Zo snel mogelijk beginnen met medicamenteuze behandeling	2/9
	Geen behandeling nodig	1/9		

4. Discussion

After search for literature, it seems that this study is the first attempt to systematically determine the Dutch general public's beliefs regarding to the infectious disease Toxoplasmosis. This study, which is based on semi-structured interviews, could build the startingpoint for risk communication strategies with the aim to inform the general public about Toxoplasmosis. Education about Toxoplasmosis is important because the infectious disease is still often present and people get infected with it.

Overall, the study shows that approximately the half of the Dutch general public knows the most basic facts concerning to prevention. Furthermore are only two misconceptions present in this part of the found results. With regard to Reservoir, Contamination and Spreading did 78% of the respondents know that the most important thing they have to pay attention to are the faeces of cats. Many misconceptions do exist with regard to the ways how Toxoplasmosis can be spread between animals, humans and other different hosts. Basic facts about the Origin of Toxoplasmosis seem to be well-known by the respondents and only one person stated incorrect beliefs. The same distribution exists when having a look at the results concerning to Risk Factors. With regard to the consequences following from an infection with the disease correct conceptions were not stated by the majority of the dutch respondents. Concerning to Treatment seems the dutch general public not to be well informed about the procedure and possibilities.

Despite carefully performed preparation the study has some limitations, which might bias the found results. At first the interview script should be adapted to do a second qualitative follow-up study. This is necessary because through the usage of the current interview script the information needs of the researcher are not yet saturated. After this first qualitative study there are still some questions left what the conceptions of the general public are with regard to some topics belonging to Toxoplasmosis. Reformulating some questions and adding new aspects can entail an improvement of the script and therefore help to get more precise answers to the main topics and to better understand the respondent's beliefs when doing a follow-up study. The gained information of this second qualitative study can build the basis framework for a quantitative follow-up study to get to know more about the spreading and total number of given answers. A second limitation of the study is the inclusion of a high number of high-educated people. Interviewing almost only high educated might falsify the needed data because the given answers do not represent the general public which includes also a high number of people with a poorer education. Including a greater number of lower-

educated people in the research interviews would be more informative to find out what the beliefs of the dutch general public are. Furthermore lacks the expert model, with which the answers were compared, some details. These details would be helpful to evaluate the given answers correctly and more precisely. This limitation can be corrected by contacting an epidemiologist who can help to create a complete and precise expert model.

In order to improve the dutch general public's health related behaviour with regard to Toxoplasmosis the health belief model can form the basic structure to take action. To be able to apply the steps of the Health Belief Model one has to get to know what the dutch general public really knows about the disease, what their expected self efficacy is and how they perceive the given threat. This is necessary to adjust the risk communication to the conceptions of the public and therefore make it useful to change their behaviour and perception. To get this information additionally a quantitative research has to be done to get to know more about the spreading and total number of the different beliefs the general public holds. New items have to be formulated which trigger honest and precise answering of the respondents.

In the case of this study, heightening the perceived threat and creating a perceived self-efficacy of the general public could be a possible way to evoke change. Self-efficacy refers to an individual's perception of his or her competence to successfully perform a specific health-related behaviour and is influenced by and on modifying variables. Because of the fact that these modifying variables consist of individual characteristics such as age, sex, race and education it seems almost impossible to change a whole public's perceived self-efficacy. Thus the most important remaining part to positively change the public's health related behaviour lies in heightening the perceived threat because the health belief model predicts that higher perceived threat leads to higher likelihood of engagement in health-promoting behaviour. It is assumed that the state of fear is an emotional state, which involves unpleasant physiological arousal that can motivate individuals towards behaviour change to reduce the threat or fear (Ruiter, Abraham, & Kok, 2001). According to this heightening the perceived threat by informing about possible consequences and the ease of spreading, will lead people to engage in health promoting and risk avoiding behaviour. Due to the fact that the combination of perceived seriousness and perceived susceptibility forms the perceived threat it is necessary to shape these two aspects (Glanz et al., 2008). The perceived severity of the disease has to be strengthened and furthermore one needs to increase the public's perceived susceptibility.

According to the health belief model, individuals who perceive a given disease, such as Toxoplasmosis, as serious are more likely to engage in behaviours that will help them to prevent them from getting infected. Moreover do people who perceive a high risk that they will be personally affected by a disease are more likely to adopt a behaviour that decreases their risk of getting infected.

These objectives can be reached by spreading correct and easily understandable information to the general public. This can eliminate existing misconceptions and help to form new correct beliefs. This education and information for the general public should be about the prevalence and incidence numbers of Toxoplasmosis, about the possible consequences of the disease and about individualized estimates of risk (Glanz, Rimer, & Viswanath, 2008). This will help to make clear how great the seriousness of the disease is and how likely it is to get infected with it.

To deal with and fulfil the general public's information needs implementing an e-health design to spread information seems to be a useful way (Oh, Rizo, Enkin, & Jadad, 2005). Such a healthcare practice using electronic processes and the internet are easy accessible for a broad range of people because of the constantly increasing number of persons who have access to the world wide web. Furthermore is e-health low on cost and provides anonymity to the users in contrast to other possible intervention methods such as posters or information evenings (Andrews & Titov, 2010).

The usage of the Persuasive System Design (PSD) model is an expansion of the e-health design and can also be helpful to deal with the general public's information needs. Persuasive systems are computerized software or information systems that imply differing persuasion techniques and strategies. These systems are designed to reach three potential outcomes with regard to behaviour and attitudes. Persuasive systems can change, reinforce or shape attitudes and/or behaviours. The first outcome, change, means that an individual's response to a specific issue changes. A reinforcing outcome describes the reinforcement of a person's current behaviour and/or attitude to make them more resistant to change. The third potential outcome, shape, means that a pattern for a situation or an issue gets formed. This can only be the case, if no specific attitude and/or behaviour already exists in the person (Oinas-Kukkonen, & Harjumaa, 2009). The usage of Persuasive System Design can help to reach a change in the public's behaviour through informing about a specific issue, such as Toxoplasmosis, in a way that convinces people of the severity of the disease. People do not get forced to change their behaviour, but they get persuaded that it is necessary. Thus

do they take action of their own free will and are not under pressure from external influences.

These three types of outcomes could all be useful to improve the dutch general public's health related behaviour with regard to Toxoplasmosis. Person's false beliefs and misconceptions about the disease can be changed and replaced by correct knowledge. Correct beliefs can be reinforced and strengthened to make them more stable. This can help to make useful behaviours and attitudes more resistant to change. On the basis of the PSD model, individuals who do not already perform a specific behaviour or have an attitude towards the topic Toxoplasmosis can shape one.

One manner to implement these plans and objectives to reality can be done through constructing an interactive manner to spread important information. As the results of this study show is the internet one of the most used tools to find information about a specific issue. Therefore the construction of a website over specific zoonosis is assumed to be an effective way to spread information. Nowadays almost all individuals of the dutch public have access to internet and thus are potential users of the website. Furthermore are more and more people owners of a smart-phone, hence are able to look something up on the website while outside on their way. A website could be created where information from the expert model is spread in a way so that the general public can understand it easily. It should consist of the information that is necessary for people to take action and engage in health-related behaviour.

To make the website more clearly arranged the usage of personas and/or user profiles can be helpful. The first one, a persona, is a fictional and prototypical characterization of a specific user. This super-typical characterization shall represent a whole user group. A user profile serves to categorize, prioritize and characterize the target group of a system. This dynamic repository cannot only be used to identify the main target group but also sub user groups. These conceptual models, personas and user profiles help to create a website that provides different sets of information, exactly adjusted to the differences in the public. It is thus not a one-size-fits-all approach but a system what makes possible that the given information is tailored to different people. Personas and user profiles make it possible to reach different target groups by spreading varying information. The information that is given is adjusted to the belongings of a specific audience. By this personas and user profiles can help to promote shared understanding among multiple individuals over a specific topic (LeRouge, Ma, Sneha, & Tolle, 2013). With regard to this study personas and user profile will help to promote shared understanding among the dutch general public and by this serve to inform about Toxoplasmosis and to improve health-related behaviour.

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6. Appendix

6.1 Interview Script

Algemeen

- Plaats afdeling interview (zelf invullen)
- Geslacht (zelf invullen)
- Leeftijd
- Opleidingsniveau
- Heeft u huisdieren ja / nee?
- Zwanger (zelf invullen...)
- Heeft u kinderen: ja/nee... leeftijd van de kinderen?

- Wat kunt u mij vertellen over ziektes die van dieren op mensen worden overgebracht?

Wat is *SPECIFIEKE ZIEKTE*

- Heeft u wel eens gehoord van * SPECIFIEKE ZIEKTE*?
 - Kunt u mij vertellen wat u allemaal weet over *SPECIFIEKE ZIEKTE*?

PREVENTIE

Gedrag

Wat kan u doen om te voorkomen dat u *SPECIFIEKE ZIEKTE* krijgt?

- Hoe weet u dat?
- Indien geen idee: Waar zou u de informatie zoeken om te weten wat u moet doen?(*Voorbeelden: Websites, apps, Facebook, nieuwssites, etc.*)
- Hoe effectief denkt u dat uw eigen gedrag is in het voorkomen van *SPECIFIEKE ZIEKTE*

VERSPREIDING / RESERVOIR / CONTAMINATIE

- Hoe zou een mens ziek kunnen worden door * SPECIFIEKE ZIEKTE*?
 - (*Voor interviewer: op welke manier kunt u 'besmet' raken? denk aan via lucht, uitwerpselen, speeksel, bloed, etc.*)
 - Zijn er nog andere manieren om * SPECIFIEKE ZIEKTE* op te lopen?
 - Hoe kan *SPECIFIEKE ZIEKTE* ontstaan?
 - Kan een mens een dier besmetten?
 - Hoe dan?

ORIGINE

- Welke dieren dragen * SPECIFIEKE ZIEKTE* met zich mee?
- Waar is de * SPECIFIEKE ZIEKTE* nog meer aanwezig?
(Voor Interviewer: Bijvoorbeeld in water, vleermuizen, urine, uitwerpselen, ziekenhuis, kranen.....etc.)

RISICOFACTOREN

- Hebben bepaalde groepen mensen een grotere kans om *SPECIFIEKE ZIEKTE* te krijgen?
 - Zo ja: Welke groepen / op welke manier / waarom denk je dat?
 - Zo nee: Waarom niet?

CONSEQUENTIES

Ziekteverschijnselen

- Als iemand *SPECIFIEKE ZIEKTE* heeft, wordt deze persoon dan ook ziek?
 - Zo ja: wat voor een ziekte symptomen krijgt hij / zij dan?
 - Zo ja: Gaan er ook mensen aan dood?
- Wanneer denk je dat iemand met *SPECIFIEKE ZIEKTE* besmettelijk is?
 - Voor wie dan?
 - Waarom denk je dat?
(voor interviewer: bepaalde groepen mensen? Dieren?)

BEHANDELING

- Als iemand *SPECIFIEKE ZIEKTE* heeft, wat kan die dan doen om beter te worden?
(voor interviewer: Ziekenhuis, huisarts, gezond eten, thuis blijven)
- Is er een behandeling mogelijk voor *SPECIFIEKE ZIEKTE*?
 - Zo ja: Wat voor behandeling?
 - Wanneer moet je dan starten met deze behandeling?
- Denk je dat *SPECIFIEKE ZIEKTE* van invloed is op je dagelijks leven?
 - Zo ja: Moet je je anders gedragen?
- Stel een familie lid heeft *SPECIFIEKE ZIEKTE*, mag je dan op bezoek?
 - Zo ja: Moet je dan nog ergens op letten?
 - Zo nee: Waarom niet?

Informatiebehoefte

- Welke informatie zou u willen krijgen als u informatie zoekt over *SPECIFIEKE ZIEKTE*?
- Zou u deze informatie zelf opzoeken?
 - Hoe zou u dat doen?
 - Of van wie zou u deze willen krijgen?
(Bijvoorbeeld: Dokter, radio, TV, nieuwssites, alerts op mobiel, etc.)

6.2 Informed Consent

Toestemmingsverklaringformulier (informed consent)

Titelonderzoek:

ePublic Health: an interactive Platform for tailored Risk Communication to prevent non-alimentary Zoonotic Diseases.

Verantwoordelijke onderzoeker:

Melle R. Lorijn

In te vullen door de geïnterviewden

Ik verklaar op een voor mij duidelijke wijze te zijn ingelicht over de aard, methode, doel en [indien aanwezig] de risico's en belasting van het onderzoek. Ik weet dat de gegevens en resultaten van het onderzoek alleen anoniem en vertrouwelijk aan derden bekend gemaakt zullen worden. Mijn vragen zijn naar tevredenheid beantwoord.

[indien van toepassing] Ik begrijp dat film-, foto, audio- en videomateriaal of bewerking daarvan uitsluitend voor analyse en/of wetenschappelijke presentaties zal worden gebruikt.

Ik stem geheel vrijwillig in met deelname aan dit onderzoek. Ik behoud me daarbij het recht voor om op elk moment zonder opgave van redenen mijn deelname aan dit onderzoek te beëindigen.

Naam geïnterviewden:

Datum: Handtekening geïnterviewden:

In te vullen door de uitvoerende onderzoeker

Ik heb een mondelinge en schriftelijke toelichting gegeven op het onderzoek. Ik zal resterende vragen over het onderzoek naar vermogen beantwoorden. De geïnterviewden zal van een eventuele voortijdige beëindiging van deelname aan dit onderzoek geen nadelige gevolgen ondervinden.

Naam onderzoeker:

Datum: Handtekening onderzoeker:

6.3 Expert Model

Expertmodel Toxoplasma (veroorzaker: Toxoplasma Gondii)

