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Chlamydia Prevention by Influencing Risk Perceptions

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1. Introduction

Worldwide, sexually transmitted infections (STI) are amongst the most serious health problems. More than 340 million new cases of curable STI infections occur every year and in 2007 an estimated 33,2 million people worldwide were infected with HIV (Joint United Nations Program on HIV/AIDS [UNAIDS] & World Health Organisation [WHO], 2007; WHO, 2001). In western countries, *Chlamydia* is one of the most common STI, with heterosexually active (young) adults among the high-risk groups (WHO, 2001). The best way to reduce the likelihood for STI transmissions like *Chlamydia* when being sexually active is by avoiding unsafe sexual contacts, *i.e.*, to use condoms correctly and consistently, or to do an STI test and get treatment before quitting condom use in a monogamous relationship. An alternative risk reduction strategy is to avoid any sexual contacts before staying in a lifelong monogamous relationship.

Condom use and STI screening are often not practiced. One of the reasons for not using condoms or getting tested for STI's like *Chlamydia* is that young adults misjudge the likelihood to get infected with an STI (Crosby et al., 2000; Ethier et al., 2003; Misovich et al., 1997; Schröder et al., 2001). Like with many risky activities, they generally think that 'it won't happen to me' (Harré et al., 2005; Weinstein, 1984). But as long as people do not realize their personal susceptibility to STI, why would condoms be used (Brewer et al., 2007; De Hoog et al., 2005; Gerrard et al., 1996; Weinstein et al., 2007)? Acknowledging ones susceptibility to a health risk is an important first step towards risk reduction (Catania et al., 1990; Conner & Norman, 2005; Milne et al., 2000; Noar, 2007; Van der Pligt, 1998). In order to make young adults feel more susceptible to *Chlamydia* threat and to stimulate preventive actions, it is thus important to communicate the risks of unsafe sex and to enhance awareness of their personal vulnerability to get infected.

The focus of this chapter is on how *Chlamydia*-related susceptibility perceptions can be influenced by using risk communication techniques. We will start with a general outline of risk communication methods (paragraph 1.2) after which two commonly used methods will be discussed in more detail, namely the use of probability-based risk information

(information about the likelihood that it happens or *how often* a risk has negative consequences, paragraph 1.3) and the use of scenario-based risk information (a description of the sequence of events leading to a serious outcome or a description of *how* a risk could happen, paragraph 1.4). Then, the effectiveness of both methods will be compared and the chapter will conclude with some recommendations for *Chlamydia* prevention activities and future research suggestions (paragraph 1.5).

Although the focus of this chapter is on motivating *chlamydia*-preventive behavior by influencing risk perceptions, it is important to note that health-related decisions like safe sex behaviour are not determined by risk perception alone (see, among others, Noar, 2007; Sheeran et al., 1999). Other factors that may influence preventive behaviour are, for example, the perceived benefits and/or the disadvantages of (un)safe sex, social norms, and people's self-confidence and perceived barriers regarding condom use and *chlamydia* screening. However, when people are unaware of their susceptibility for certain health threats like *Chlamydia*, when they do not know or acknowledge that they run a risk, it will be unlikely that they will take preventive actions. Therefore, the understanding of how to influence risk perceptions is an important step in order to motivate preventive behavior.

2. Risk communication methods

The communication of health risks is an essential component of many health prevention activities. Its purpose is to support people in making sensible and healthy risk judgments and decisions. Examples of risk messages can be found in various health-related fields, such as informing people about large-scale industrial accidents, widespread infectious diseases like the severe acute respiratory syndrome (SARS), or communicating the risks of drunk driving, smoking, or someone's risk for getting infected with an STI like *Chlamydia*.

Studies on risk communication are diverse and they have been conducted from many different scientific perspectives, which has resulted in a wide but also scattered knowledge base. There is consensus about the general factors that are important in order for (risk) information to be effective, such as the trustworthiness, understandability, credibility, and relevance of the information (Breakwell, 2000; Glanz & Yang, 1996). But the scientific literature hardly provides clear guideliness on which risk information should be included exactly in the health message. Various methods to communicate (health) risks are provided. We can, for example, communicate risks by providing information about the probability that the risk may happen (Visschers et al., 2009) and frame information in such a way that it positively states the efficacy of the preventive recommendations (Salovey et al., 1998). Stressing the severity of the potential consequences of the risk is an alternative, for example by using so called fear appeals (Ruiter et al., 2001). Another way to communicate health risks is to provide messages that describe the connected chain of events that may cause the risk, like a personal testimonial of somebody describing how he/she was confronted with the risk, to make the hazard more vivid (Koehler, 1991). When informing people about unknown risks, the risk could be compared to hazards with similar dimensional profiles (Freudenburg & Rursch, 1994; Visschers et al., 2007). Apart from these presentation formats, there are factors that may influence the effects of risk information such as the qualitative characteristics of the risk (e.g., dread, likelihood, novelty; Skinner et al., 1999; Slovic, 1987), individual differences (e.g., experience, relevance; Rothman & Schwarz, 1998), the described context in which the risk takes place (e.g., culture, society, surroundings; Weber & Hilton,

1990), or additional information on, for example, how to deal with possible barriers regarding the recommended health actions (Ruiter et al., 2001).

In the remaining part of this chapter, the use of risk probability information and of risk scenario information – two commonly used risk communication approaches – and their impact on influencing *Chlamydia*-related risk perceptions will be discussed in more detail.

3. Risk probability information

Risk probability information is information concerning the likelihood that a certain risky behavior (e.g., unsafe sex) ends up negatively (e.g., getting infected with *Chlamydia*). Probability information is regularly used in risk communication to inform people about the likelihood of risks and aims to improve healthy decision making by presenting the objective facts. Think, for example, of information regarding the chance to develop vascular diseases because of eating unhealthy, or the possibility of getting lung cancer by smoking cigarets.

Probabilities can be described in different ways, using various presentation formats like numerical (frequencies, percentages), verbal ('it is quite likely'), or even visual (*i.e.*, graphs). A lot of research has been done on the effects of different presentation formats of probability information on risk perception and on how to facilitate comprehension and interpretation of this information among lay people (Edwards et al., 2001; Edwards et al., 2002; Rothman & Kiviniemi, 1999; Visschers et al., 2009; Weinstein, 1999). In this chapter, we focus on three of the most frequently used probability formats in health communication, *i.e.*, the use of single incidence probability information, cumulative probability information and personalized probability information to communicate the risk of *Chlamydia* infections.

3.1 Single incidence vs. cumulative probability information

When communicating risk probabilities, health educators generally use one-shot risk information: information about the likelihood of a negative ending with single risk encounters. However, with many health-related behaviours or risky activities, we are often not exposed only once but frequently. And with repeated exposure to the risk, the probability to be confronted with a negative ending increases. In other words, many risks accumulate in time. This surely accounts for the likelihood to get infected with *Chlamydia*: with increasing number of sex partners and increasing number of sexual encounters, the risk to get infected increases as well.

It is shown that people often do not realize that risks accumulate over time but seem to consider each exposure moment as an independent event (Knäuper et al., 2005). Additionally, people make mistakes when asked to estimate the long-term risk based on single-incident risk information (Doyle, 1997; Fuller et al., 2004; Knäuper et al., 2005). Therefore, several authors suggested that the cumulative aspect of risks should be emphasized and explained rather than communicating single incident probabilities (Fuller et al., 2004, p. 618; Holtgrave et al., 1995, p. 136).

We explored this suggestion in the context of sexual risks by presenting single incident rates with or without cumulative risk information on getting infected with *Chlamydia* and investigated if people would feel more susceptible for *Chlamydia* after emphasizing the cumulative aspects of the infection probability (Mevissen et al., 2010a). The probability

information was tested using verbal cumulative information ("The more often you have unsafe sex, the higher your probability to get infected with *Chlamydia*", study 1) and numerical cumulative risk information ("the probability of contracting *Chlamydia* after 10 unsafe sexual encounters with an infected person increases to $p = 1 - (1 - 0.7)^{10} = 99\%$, or 99 out of 100 people", study 2). The single incidence information communicated the probability to get infected with *Chlamydia* after a single unprotected sexual encounter with an infected person (70%). The cumulative risk information focused on the increased risk for infection after multiple unsafe sexual encounters with multiple partners.

The effects of this information were tested among a group of sexually experienced young adults, with immediate post-treatment measurement of risk perceptions for *Chlamydia*. It was expected that presenting cumulative probability information, regardless of being verbal or numerical, would result in higher perceived susceptibility to get infected with *Chlamydia* than presenting single incidence information only or than presenting no probability information at all. However, contrary to recommendations and assumptions (Fuller et al., 2004; Holtgrave et al., 1995), the *Chlamydia*-related susceptibility perceptions were not rated higher after presenting cumulative probability information, whether the information was presented in a verbal format or a numerical format. Moreover, the studies showed that stressing the cumulative risk of unsafe sex on *Chlamydia* infections resulted in *lower* perceived susceptibilities compared to a control group that did not receive probability information. The single incident probability information on *Chlamydia* did not influence risk perceptions whatsoever.

The fact that cumulative risk information about *Chlamydia* actually resulted in lower risk perceptions may be related to defensive reactions and denial of one's susceptibility for high probability risks. The high infection probability rates of *Chlamydia* could have been fear arousing, especially because no efficacy information was added (Ruiter et al., 2001). The study showed that even though the probability of getting infected was rated higher than participants thought in advance, and the messages generally were accepted, participants perceived themselves personally less susceptible for *Chlamydia* after receiving cumulative probability information. Even after presenting the high infection probability rates to a group clearly susceptible to *Chlamydia* (study 2 focussed on young women with a serieus risky sexual past), perceived susceptibility was not rated higher but actually lower.

3.2 General vs. personal probability information

In the above described studies, risk probabilities were presented using general risk information aimed at the general public. These studies showed that communicating general risk information does not always have the intended effect on risk perceptions related to oneself. When provided with general risk information, one's personal risk may actually be easily denied by thinking that the information is applicable only for others, but not for oneself, which is confirmed in empirical research (Klar & Ayal, 2004; Price, 2002). Moreover, people seem to favour specific individual risk feedback to general risk information (Bos et al., 2004; Mevissen et al., under review-a). This sounds plausible, as personal risk information describes the risk probabilities based on the individual situation. Personal risk messages that are tailored to the individual thus increase the relevance and accuracy of risk information. This may in turn enhance its persuasiveness. Thus, it may be better to

communicate personalized risk probabilities, *i.e.*, how likely is it that *you* are infected or getting infected with an STI like *Chlamydia*?

Several studies showed the effectiveness of personalized risk information in forming adequate risk perceptions (Edwards et al., 2000; Emmons et al., 2004; Kreuter et al., 2000). For example, Emmons and colleagues (2004) developed a computer-based tailored risk communication tool that showed effectiveness in correcting misperceptions regarding personal risk for colorectal cancer among a diverse patient population of a health centre. Kreuter and Strecher (1995) showed that individualized risk feedback effectively increased perceived stroke risk among people who had underestimated their risk.

We also investigated whether it is more effective to increase risk perceptions towards STI using personalized risk information (*i.e.*, risk probability information tailored to the personal circumstances of the individual) as opposed to general, non-tailored risk probability information (Mevissen et al., 2011). In this study, we did not specificly focus on the risk to get infected with *Chlamydia*, but on the risk of STI infection in general. In addition, the risk information was embedded in the context of a larger-scale health intervention program that was developed, implemented and evaluated according to the Intervention Mapping protocol (Bartholomew et al., 2011). Participants not only received information on their STI infection probabilities but they also received a tailored safe sex advice as well as information tailored to their motivation and skills to use condoms or go for STI screening. Using computer tailoring techniques, and based on their indicated sexual experiences, a personal STI risk probability profile was generated and communicated to young adults in starting heterosexual relationships.

In a randomized controlled trial, the interventions' efficacy was compared to a group receiving non-tailored, general information addressing the same determinants and a control group receiving no information. Risk perception for STI infection and intention to use condoms or perform an STI test were measured directly after visiting the intervention. Additionally, a three month follow-up questionnaire measured the behavioural impact (actual condom use or STI screening). The hypothesis was that the tailored intervention with personalized risk feedback would result in higher risk perceptions for STI and higher intention for condom use or to perform an STI test compared to general (non-tailored) information or no information (control group). Also, it was expected that participants in the tailored intervention would have higher rates of condom use and STI-testing.

The results confirmed the hypothesis; perceived susceptibility for STI was rated higher among participants in the tailored intervention group as opposed to participants in the non-tailored group or those in the control group. Moreover, those receiving tailored information had higher intentions to talk about STI testing with their partner (measured directly after the study) as well as higher condom use rates at three month follow-up. It seems that a tailored intervention including personalized probability information is an effective strategy to adequately increase perceived risk probabilities for STI and to enhance protective behaviour. In addition, by providing the information web-based and using computer-tailoring techniques, it also is a cost-effective, easy accessible and anonymous way to deliver the information widespread.

It is important to add, however, that participants not only learned about the probability to get infected with an STI, but also received some guidelines on how to avoid it. Thus, the

current setting does not allow us to draw any firm conclusions regarding the explicit impact of personal probability information over general probability information in influencing risk perceptions and behaviour. The potential influence of the additive information provided in both the tailored as well as the non-tailored group may not be ignored. Still, our data suggest that personalized risk communication is a promising method of risk communication.

3.3 Risk scenario information

In everyday reality, statistically-based probability information regarding the prevalence and likelihood of risks is usually unavailable at the moment people have to judge a risky situation. In that case, people use their knowledge and ideas about the event in order to determine its' riskiness. Several authors have suggested that people rely on cognitive strategies in order to decide to take the risk or not, such as simplified representations and heuristics (Gilovich et al., 2006; Katapodi et al., 2005). People might, for instance, recall information from memory about how often similar situations in the past did result in a negative outcome. Thus, susceptibility perceptions are shaped from past-outcomes, information available in one's mind ("availability heuristic"; Tversky & Kahneman, 1982). The cognitive availability of explanations that lead to an event increases the judged likelihood that the event will occur. Another possible judgment strategy is to mentally construct and evaluate potential future scenarios: how could a risky situation possibly result in a negative outcome? The ease with which hypothetical scenario's can be imagined or mentally simulated, influences the judged likelihood that it will happen in reality (Heath et al., 1991; Kahnemann & Tversky, 1982). If an event can be easily constructed in memory, the possibility that it will occur will be perceived as more likely. The cognitive simulation of hypothetical event sequences ("simulation heuristic"; Kahnemann & Tversky, 1982) means that people rely on *how* a particular risk could result in a negative outcome, instead of *how often* a risk has negative consequences.

Providing people with information describing the context in which a risky event might take place and/or can end negatively (scenario information), may aid the construction of a risk image, which, according to the simulation heuristic, could thus influence susceptibility perceptions. Compared to studies on the effects of probability information on risk perceptions, research on scenario-based risk information is scarce (see for a review: Koehler, 1991, p. 506-507). One of the earliest studies on the effects of scenario information – though not related to risky activities – was conducted by Gregory and colleagues (1982). Participants were asked to read and imagine a scenario about subscribing to a cable television service. After the task, they indicated more interest in signing in for such a service compared to people receiving plain information about the cable service. Moreover, subjects who imagined subscribing did actually do so more often than did subjects in the control group. Sherman, Cialdini, Schwartzman, and Reynolds (1985) as well as Broemer (2004) conducted studies demonstrating that it is indeed the *ease* of imagination that influences likelihood estimates. Participants reading and imagining easy-to-imagine disease symptoms rated the probability to contract the disease higher compared to those provided with difficult-to-imagine disease symptoms.

Providing scenario information in order to influence risk perceptions for STI like *Chlamydia* seems a promising alternative method to communicate risks and to motivate preventive

behavior. Turner de Palma and colleagues (1996) found that scenario-based risk information increased the imagination of getting infected with HIV though it did not increase HIV-related risk perceptions. They concluded that this could be the result of denial of ones personal susceptibility to a well-known severe disease as simultaneously risk perceptions towards a fake infection with unknown severity did increase. De Wit and colleagues (2008) found higher risk perceptions towards Hepatitis B among homosexual men receiving scenario information compared to people receiving probability information. We conducted several studies using different scenario-formats to see if we could influence perceived susceptibility to *Chlamydia*. The use of one single scenario message will be described first (3.3.1) after which the influence of writing ones own scenario story (3.3.2) and the influence of presenting multiple scenarios (3.3.3) will be presented.

3.3.1 The impact of scenario information on *Chlamydia* risk perceptions

In our first study, we provided a group of young adults with a scenario message concerning a story of a person infected with *Chlamydia* after having unsafe sex with his/her steady partner, a situation generally regarded to be safe by young people and thus condom use is not practiced (Misovich, et al., 1997). The message was selected after a pilot study in which we tested several messages with respect to credibility, personal suitability, and the degree to which people could identify with the situation presented. The message presented the story of a student having unprotected sex with a steady sex partner and discovering that he/she had contracted *Chlamydia*. The student then realizes the risk that is taken because also in former steady relationships condom use had ceased after a while. The main character in the scenario was a young man for male participants, and a young woman for female participants, to make the scenario applicable for both sexes. This lab-based study was conducted among undergraduate students. Self-report questionnaires measuring perceived suceptibility to *Chlamydia* were provided after reading the scenario. It was expected that participants would have higher rates of risk perception after reading the scenario message compared to a control group only receiving general information on *Chlamydia* and not receiving the scenario message.

The results showed that providing young adults with risk scenario information indeed led to higher perceived susceptibility for *Chlamydia* (Mevissen et al., 2009). However, the influence of scenario information on *Chlamydia*-related susceptibility perceptions depended on the relationship status of the recipient: only among participants *without* a steady relationship at time of measurement, perceived susceptibility was rated higher after reading scenario information compared to not reading scenario information. No effect of scenario information was found for participants *with* a relationship.

This relationship-dependent effect may have been caused by some form of denial. The scenario in our study described the story of somebody getting infected with *Chlamydia* by having unsafe sex with a steady partner. The content of the message was thus highly relevant for participants actually having a relationship. Although message relevance generally increases information processing (Petty & Cacioppo, 1986), a strong identification with the message content can also be threatening and may lead to defensive reactions such as message derogation (e.g., denying its' relevance or preventing the information from reaching consciousness) and denial of one's personal susceptibility (Block & Williams, 2002;

Dietz-Uhler, 1999; Liberman & Chaiken, 1992). Due to its' high relevance, the scenario information used in our study may indeed have resulted in denial among people with a relationship. Apart from the message being too threatening because of the content being too relevant an alternative explanation for the limited effects of scenario information could be that not all participants could identify enough with the situation described in the scenario. However, in order to positively influence susceptibility perceptions, it is important to imagine the situation in the scenario very well and be able to identify easily with the character in the story (Anderson, 1983b; Broemer, 2004). It could have been difficult to imagine getting infected with *Chlamydia* within a relationship context for people actually having a relationship (Misovich et al., 1997).

3.3.2 Self-constructed risk scenarios and the role of imaginability

To explore in more detail the above suggested explanation regarding the role of the imaginability and relevance of risk scenarios on feelings of susceptibility, we conducted another study (Mevissen et al., under review-b). A measure rating the imaginability of the described event was included and the mediating effect of imaginability on perceived susceptibility to *Chlamydia* was determined. Additionally, we used a risk scenario with a different story content (*i.e.*, getting infected with *Chlamydia* by having sex with a casual partner instead of by having sex with a steady partner) to see if this scenario could influence risk perceptions not only among participants without a relationship but also among people with a serious relationship. Participants receiving the casual partner story were compared with a group of people who were asked to write their own risk scenario about how they (or somebody like them) could get infected with *Chlamydia*. It seemed plausible that writing your own risk story would more actively trigger the imagination, would be easier to accept and would be less fearful (Aronson, 1999). By making people describe their own risky situation, we could possibly overcome the limited effects of prefabricated risk scenarios on susceptibility perceptions. Risk perception and imaginability measures were scored immediately after the reading or writing assignment. It was expected that reading as well as writing a scenario would increase risk perceptions by making it easier to imagine getting infected with *Chlamydia*. Moreover, it was expected that writing your own risk scenario would make it even easier to imagine the event (e.g., *Chlamydia* infection) and would thus have a stronger influence on risk perceptions.

The results of the study showed that the self-constructed risk scenarios were indeed easier to imagine and this imaginability led to stronger feelings of susceptibility for *Chlamydia* compared to a prefabricated risk scenario message or no risk scenario message, independent of the relationship status of the participant. Additionally, contrary to the prefabricated risk scenario, the self-constructed risk scenario did not cause higher feelings of threat compared to the control group.

To our surprise, however, this time the prefabricated risk scenario did not have any effects on perceived susceptibility whatsoever. As expected, the imaginability of the prefabricated risk scenario was rated lower than the imaginability of the self-constructed scenarios. Moreover, the prefabricated risk scenario indeed led to higher feelings of threat compared to not receiving scenario information. Still, we had expected that the prefabricated scenario would have some influence on risk perceptions. These findings suggest that it is difficult to construct prefabricated risk scenarios in a way that they are easy to imagine for everyone

and such that they do not arouse too much fear. The limited effects of risk scenarios in influencing risk perceptions may be partly outweighed if participants create their own risk scenario; scenarios that participants wrote themselves were easier to imagine, less threatening, and increased risk perceptions to *Chlamydia*.

3.3.3 One vs. multiple risk scenario messages

Self-constructed risk scenarios seem to be an effective tool to influence perceived susceptibility to *Chlamydia*. However, it may have difficulties with practical implementation – self-constructed risk scenarios can only be used in face-to-face counseling or a class workshop. We thus explored the efficacy of providing multiple (two) prefabricated risk scenarios in influencing risk perceptions to *Chlamydia* (Mevissen et al., 2010b). The scenario information was presented as two different personal testimonials; one scenario about a *Chlamydia* infection in the context of a serious relationship, the other about a *Chlamydia* infection in the context of a one-night-stand situation. More scenarios signify more examples of possible risky events which could in turn enhance imaginability and perceived susceptibility (Hendrickx et al., 1992; Hendrickx et al., 1989). In addition, when providing multiple risk scenarios, it is more likely that at least one of the messages will be appealing and imaginable for the receiver which may in turn decrease the likelihood for denial of the message content. In an experimental design, undergraduate students were exposed to one or two risk scenario messages or received no scenario message (control group). Risk perception and imaginability measures were rated directly after presenting the scenario messages. The expectation was that reading the scenario information would make people feel more susceptible to *Chlamydia*. Presenting multiple (two) risk scenarios was thought to make it even easier to imagine getting infected with *Chlamydia*, thus resulting in even higher susceptibility perceptions.

The results of the study showed that providing people with only one single risk scenario did not make people feel more susceptible to *Chlamydia*, regardless of the characteristic of the participants (relationship status), or the described event in the scenario message (casual sex or relationship context). However, as hypothesized, providing people with both risk scenarios simultaneously did lead to higher susceptibility perceptions towards *Chlamydia*, independent of relationship status of the participant. This positive effect of two scenarios on perceived susceptibility towards *Chlamydia* was mediated by imaginability. Although again providing just one scenario message did not influence risk perceptions, by providing multiple risk scenarios we could influence susceptibility perceptions to *Chlamydia*. We can say that although the efficacy of scenario-based messages is sensible to several factors, proving multiple scenarios or making people construct their own risk scenario seem effective tools to influence risk perception to *Chlamydia*.

4. Conclusions

In this Chapter, we described the efficacy of different risk communication methods in influencing risk perceptions in order to motivate preventive behavior. More specific, we discussed how probability-based risk information and scenario-based risk information could increase perceived susceptibility for *Chlamydia*. If we consider our studies regarding the influence of probability-based risk information and scenario-based risk information on *chlamydia*-related risk perceptions we can conclude that the effectiviness of both methods

depends on the format used. Judgments regarding *Chlamydia* are influenced by different communication formats. We can conclude that:

1. Care should be taken when providing general probability-based risk information in communicating the risk of *Chlamydia* infection. The influence of general probability information (single incident as well as cumulative) on risk perceptions to *Chlamydia* seemed to be less obvious than expected and assumed. It may even lead to unwanted lower instead of the desired higher risk perceptions. We recommend being careful with including (cumulative) probability information in health risk messages and to pilot-test the risk messages properly to prevent unexpected side effects.
2. Personalized probability feedback, on the contrary, seems a promising risk communication strategy to adequately influence risk judgments. A tailored intervention including personalized probability information may effectively increase feelings of susceptibility and positively influence health behaviour change. As face-to-face counselling sessions are an expensive and time-consuming way to deliver tailored information, web-based interventions seem to be a perfect solution for a widespread, cost-effective, and anonymous distribution of personal probability-based risk information. Combined with behavioral recommendations and information tailored to motivation and skills, personalized risk information seems an effective approach to stimulate healthy behavior. More research on whether tailored information regarding motivation and self-efficacy adds to the impact of personalized risk information would increase our understanding on the factors influencing the efficacy of tailored health risk messages.
3. Scenario information is a potentially effective tool to increase feelings of susceptibility towards *Chlamydia*, but its efficacy depends on the characteristics of the person making the risk assessment and the imaginability of the risk scenarios presented.
4. To reduce the likelihood for defensive reactions or a lack of imaginability, it is advisable to make people construct their own risk scenarios or to provide multiple risk scenarios.

Caution when using risk communication methods should be taken. Communicating risks using probability information or scenario information may also induce defensive reactions. The efficacy of cumulative and single incident probability information regarding *Chlamydia* seems to decrease perceived susceptibility. It is thus necessary to thoroughly pretest risk communication messages in experimental studies even when certain presentation frames or strategies seem obviously more effective or better than others. They may cause unexpected and unwanted side effects. More research on which factors trigger defensive reactions and on how to adequately measure them, as well as on how to communicate risk information while avoiding denial, is desirable and necessary.

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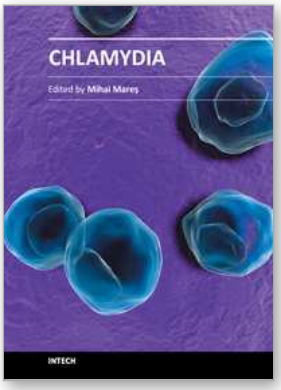

Chlamydia

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Nowadays, Chlamydia still represents a redoubtable pathogen. Among its consequences, the blindness in children and severe impairment of reproductive health in adults are the most mutilating. Worldwide, it is estimated that six million of people suffer from post-trachoma blindness and almost 90 million become sexually infected each year. Due to its silent evolution and sexually transmission, the chlamydial infection can occur in anyone. The book “Chlamydia - A Multifaceted Pathogen” contains an updated review of all-important issues concerning the chlamydial infection. It comprises 18 chapters grouped in four major parts dealing with etiology and pathogenicity, clinical aspects, diagnosis and prevention. The new molecular data about the pathogenicity and the exhaustive presentation of clinical findings bring novelty to the book and improve our knowledge about Chlamydia induced diseases.

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