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Title: How do young adults perceive the risk of chlamydia infection? A qualitative study

Article & version: Pre-print version

Original citation & hyperlink:

Newby, K. , Wallace, L.M. and French, D.P. (2012) How do young adults perceive the risk of chlamydia infection? A qualitative study. *British Journal of Health Psychology*, volume 17 (1): 144-154

<http://dx.doi.org/10.1111/j.2044-8287.2011.02027.x>

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How do young adults perceive the risk of chlamydia infection? A qualitative study

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Total word count: 4114/5000

Acknowledgements

The authors would like to thank the following people for their contributions to this research: Firstly, all of the young people who gave up their time to participate in the research; secondly Alison Baxter who assisted with data collection and lastly, Dr Sris Allen (Consultant Physician, GU & HIV Medicine, Coventry and Warwickshire Hospital) for his assistance with the recruitment of participants to this study.

Abstract

Objectives: This study aimed to improve understanding of how young UK genito-urinary medicine (GUM) patients perceive the risk of chlamydia, and identify implications for health education.

Design: a qualitative methodology was chosen.

Methods: semi-structured interviews with twenty-seven respondents aged 16-22 years old were conducted. Data was subjected to thematic analysis.

Results: Respondents made assessments of the perceived seriousness of, and their personal susceptibility to, chlamydia infection. Judgements about seriousness were related to beliefs about the controllability of symptoms and the long-term health consequences of infection. Susceptibility estimates were related to beliefs about the extent to which personal exposure put them in contact with Chlamydia, and about the prevalence of infection amongst their peer group. This is consistent with the content of illness risk representations proposed by Cameron (2003). Respondents demonstrated some beliefs which appeared to influence perceptions of seriousness and susceptibility in unhelpful ways.

Conclusions: Young people may be underestimating their risk of chlamydia infection due to the presence of unhelpful beliefs. Dialogue between health professionals and patients within genito-urinary medicine (GUM) clinics, or through consultations as part of the National Chlamydia Screening Programme (NCSP), could provide vehicles to deliver health education to target these. Suggested health education includes highlighting false reassurance provided by treatment beliefs and exposing the fallibility of using overt characteristics to judge the likelihood that a potential sexual partner poses a risk of infection.

Genital chlamydia is the most common curable sexually transmitted bacterial infection in the UK (Health Protection Agency, 2010). If untreated, this infection has potentially serious and long-term health consequences for women such as pelvic inflammatory disease, ectopic pregnancy and tubal factor infertility. A growing body of evidence also links infection to infertility in men (Joki-Korpela et al., 2009; Idahl, Boman, Kumlin, & Olofsson, 2004). The highest incidence of infection is amongst 15-24 year olds. The latest UK figures put current incidence at 1989.6 and 2177.5 per 100,000 for 15-19 and 20-24 year olds respectively (Health Protection Agency, 2010). This data is based on diagnoses made in GUM clinics and other community healthcare and non-healthcare settings and has only been available since 2008. Data based on only GUM clinic diagnoses which precedes this, indicates a rise in infection of 76% for 16-19 year olds and of 85% for 20-24 year olds between 2000 and 2009 (Health Protection Agency, 2010). In England, the National Chlamydia Screening Programme (NCSP) is operating as a proactive response to control the spread of infection (Health Protection Agency, 2007). The new public health white paper however indicates that the primary prevention of sexually transmitted infections (STIs) will remain a key public health strategy (Department of Health, 2010).

Many theories of health behaviour identify perceptions of risk as primary motivators of behaviour change (Brewer, Weinstein, Cutie, & Herrington, 2004; Floyd, Prentice-Dunn, & Rogers, 2000). Evidence from recent meta-analyses suggests that perceived vulnerability and perceived severity, which are theoretical components of risk perceptions, have a small but significant relationship with intentions and behaviour (Milne, Sheeran & Orbell, 2000; Witte & Allen, 2000). This relationship may be underestimated due to measurement and study design issues (Wright, 2010). Informing individuals about a potential threat to their health may be an effective strategy in motivating protective behaviour. Before this can happen however, it is necessary to have an understanding of how young adults perceive the

risk presented by chlamydia. For example, do they perceive this infection as a threat, and if not, why not?

There are no previous published investigations of what shapes young adults' estimates of their personal risk of becoming infected with chlamydia. It is known that their knowledge of chlamydia, which may inform these estimates, is limited. Studies that have sought to establish the completeness of knowledge have identified that, despite young adults becoming increasingly aware of chlamydia over recent years (Office for National Statistics, 2007), important knowledge gaps still exist. In particular, young adults have low awareness of the symptoms of chlamydia and of the long-term effects it can have on fertility (Devonshire, Hillman, Capewell, & Clarke, 1999; Piercy, Kellock, Rogstag, & Searle, 2000) and hold general misperceptions about methods of preventing STIs (Crosby, Yarber, & Meyerson, 2000; Koniak-Griffin & Brecht, 1997).

The aim of this study was to improve understanding of how young UK genitor-urinary medicine (GUM) patients perceive the risk of chlamydia, and identify implications for health education aimed at improving chlamydia risk perceptions amongst this at risk group.

Method

Participants

To be eligible for the study, individuals had to be aged between 16 and 24 years old and to have had at least one instance of unprotected vaginal sex in the last three months. The sample comprised of twenty-seven young adults aged 16-22 years old who were attendees at Coventry and Warwickshire hospital Genito-Urinary Medicine (GUM) clinic based within Coventry City Centre. Coventry is a multi-cultural city in the UK with a population of over

320,000. In total, twelve women and fifteen men participated. Purposive sampling was used in order to obtain a sample within the required age range with a roughly equal split of males and females. Sample size was determined pragmatically but aimed to include as many respondents as feasible within time and financial constraints.

Materials and Procedure

The study received full National Research Ethics Service (NRES) approval through Coventry Local Research Ethics Committee (LREC) prior to commencement. Eligible respondents were approached by doctors during an initial consultation and invited to participate. Individuals were required to give informed consent prior to participating. An incentive in the form of a £10 gift voucher was offered.

Following prior agreement with GUM doctors, respondents were not provided with health education on STIs within their consultations which preceded the interview. All participants were assured of their anonymity prior to data collection. A semi-structured interview schedule was used to guide the interviews. The schedule was designed to broadly explore how young adults' perceive the risks of chlamydia through eliciting knowledge of infection and examining decision making processes that occurred during recent experiences of unprotected sex. Prior to use it was reviewed by a Genito-Urinary Medicine (GUM) consultant, a youth worker and a health psychologist with expertise in the field of sexual health. It was modified during the process of data collection in light of interview findings.

Data was collected between 2005 and 2006. Interviews were conducted by two female researchers (including the primary author) with experience of interviewing on sensitive subjects. Interviews were carried out in a private room and care was taken by the interviewers to present themselves as independent of the clinical team. The interview schedule was used as a guide to stimulate conversation. Knowledge and beliefs elicited by the questions were explored in detail with each of the respondents. Interviews lasted between

25 minutes and one hour. All interviews were audio recorded and fully transcribed prior to analysis.

Analysis

Male and female interview transcripts were analysed as separate groups by the primary author. Data was subjected to thematic analysis in accordance with Braun & Clarke (2006). Analysis was used to identify predominant themes across the data set using an inductive approach. This approach enables researchers to be confident that the findings emerge from the data and are not obscured by existing evidence and theory. Accordingly, the primary author was unfamiliar with literature on risk perception at the time of data collection and analysis. Themes were identified at the semantic level, that is, the analytical focus was on explicit surface meanings of the data and not on looking for anything beyond what the respondents said.

Analysis took place alongside data collection to enable emerging categories of interest to be investigated further. Interview transcripts were coded to identify relevant aspects of the data relating to how respondents perceived the risk of chlamydia. Once a comprehensive set of codes had been identified, repeated patterns across the data set were identified to generate candidate themes. Candidate themes were then reviewed and refined to create a thematic map of major themes and sub-themes which were thought to capture and reflect meanings evident across the data set. Quotations were selected to illustrate the themes. In the presentation of findings below, each quotation is followed by a code e.g. M7, to indicate the respondent's gender and participant number.

Results

Two major themes, each with two sub-themes, were identified during the analysis. In summary, respondents' made assessments of their risk of becoming infected with chlamydia in terms of the perceived seriousness of infection and their personal susceptibility to it.

Perceived seriousness of chlamydia (major theme)

Beliefs about the seriousness of chlamydia were largely related to their understanding of its *consequences* and *controllability*. These two sub-themes are described in detail below.

Consequences (sub-theme). All respondents were unclear about what symptoms individuals with chlamydia might expect, often guessing or seemingly drawing on knowledge of STIs in general:

“I would take a guess and say itching and things like that, but I’m not too sure”

[M14]

“When you go to the toilet, it stings when you wee. Or there’s discharge or something” [M8]

This indicates that young people are not clear about which symptoms relate to which STIs.

This is not surprising given the ambiguous nature of STI symptoms many of which are shared. This indicates that no one symptom of chlamydia has previously stood out as sufficiently unpleasant to inform severity appraisals.

The long-term consequences of chlamydia were also not a deterrent to unprotected sex. Most of the women reported female infertility as the major health consequence of chlamydia. Most males reported that female infertility could result from the infection but were often unclear about whether this also affected men. A small number of women voiced a desire to have children in the future and expressed motivation to protect themselves against chlamydia for this reason, although this did not always translate into behaviour:

“Yes I’m worried about it. Not being able to have kids, which is something that I really want to do one day” [F5]

For the large majority, infertility was a distal consequence that failed to motivate protective action:

“I’m not so worried about that now (having children). Not so much now, maybe it will be later on. Because I’m not really thinking about that now [F2]

If say like I was having a think one day it might pop in to my head, but I wouldn’t be in a room with someone and think ‘well I might not be able to have kid one day if I don’t (use a condom), you know” [F8]

Other major consequences namely pelvic inflammatory disease and ectopic pregnancy were not mentioned by any of the respondents.

When discussing the consequences of chlamydia, respondents made comparative judgements of seriousness. In making decisions about whether or not to use condoms, it was clear that chlamydia, like other STIs, didn’t exert a strong influence. Other outcomes of unprotected sex were found to carry greater weight, namely the risk of contracting HIV, and the risk of unplanned pregnancy:

“Pregnancy is more of a worry than chlamydia. It has more of an immediate effect” [F4]

“I think most people think using condoms is quite important, especially protecting against pregnancy. I think that’s the main reason why people would use them, and that’s the main panic if somebody doesn’t, that they might be pregnant. So I think that’s probably the biggest priority” [F4]

Reasoning often followed the line that HIV/AIDS was so rare amongst their age-group that, providing hormonal contraception was used to prevent pregnancy, condoms weren’t necessary:

“HIV ...not getting pregnant..., those are the two main worries I think, and as soon as you trust the other partner about HIV, and you are on the pill, basically what happens is that you don’t think about anything else” [F9]

Controllability (sub-theme). The majority of respondents knew that chlamydia was treatable. Respondents, particularly females, indicated that because they knew that chlamydia could be treated, they didn't perceive it to be a threat:

"Chlamydia is sort of one of the ones to get, if you can say that, because it's treatable and when you've done it it's gone until you get it again or whatever" [F7]

"Like with chlamydia, you can get it treated and its done" [F5]

Most also believed that treatment involved taking antibiotics or at least pills of some sort:

"It's just a course of antibiotics" [F10]

"Like pills, like antibiotics, yes tablets I should think" [M3]

Respondents often implied that they viewed treatment as simple. This suggests that the nature of treatment is not perceived as particularly threatening. This is likely to further add to perceptions that the consequences of this infection are not particularly serious. Concurrent with beliefs about treatment, almost all of the women knew that chlamydia could be asymptomatic, often referring to it as the 'silent' STI. Despite this, none of the respondents linked these beliefs, reflecting on the unlikelihood that they would be compelled to seek treatment if they weren't aware they had become infected.

Perceived susceptibility to chlamydia (major theme)

Respondents' beliefs about their susceptibility to chlamydia were related to assessments of personal *exposure* to infection, and of the *prevalence* of infection amongst young adults.

These two sub-themes are described in detail below.

Exposure (sub-theme). All respondents knew that chlamydia transmission occurred through unprotected vaginal sex. The large majority of respondents reported that they were less likely to become infected with chlamydia than their peers. These judgements were based on

assessments of the extent to which their sexual risk behaviour, such as the frequency with which they had unprotected vaginal sex, and the number and type of their sexual partners, exposed them to infection:

“I would say I’m less likely than others (to get chlamydia)... because I tend to think that I do it safely, and I only have one partner, and there are times when you do have unprotected sex but I try not to as often as possible” [F7]

“I think there’s a chance (of getting chlamydia) but I don’t have as many partners as my friends do, so I don’t switch as much, so I wouldn’t see myself as particularly likely to get it” [M15]

Respondents described using various non-verbal strategies when judging whether potential casual-sex partners posed a threat of infection. These assessments led to decisions about whether to use condoms to protect themselves from exposure to STIs. Strategies differed by gender. Men in particular indicated that they made judgements based on a potential sexual partners’ reputation. Men were more likely to avoid sexual contact, or to use condoms with, women described for example as ‘dirty’, ‘less respectable’ or having ‘been around’:

“It’s just the way they are. You know, some girls you see around town, you see them around all the time, and word gets out of who they are, yes, and they’ve obviously had a few partners, and you have to be careful” [M11]

Women on the other hand were more likely to report having used overt clues to judge the likelihood that a potential sexual partner had a STI:

“I just thought he wasn’t likely (to have an STI), I mean he was clean, good looking, had a nice car. It just didn’t cross my mind, it sounds stupid, but he just didn’t cross my mind as the type” [F1]

“How I do it is, if they’re one of the lads, if they’re one of the proper main ringleader lads, then they’re probably not that responsible. You know, ladies man sort of thing. But then if they’re on the outskirts of the lads, because I normally go for the nice guy, then you can kind of trust them a bit more” [F10]

Prevalence (sub-theme). The large majority of respondents referred to chlamydia as ‘*really common*’ or ‘*the one that most people get*’. Although respondents referred to beliefs about prevalence when describing perceptions of personal vulnerability to infection, at times it was clear that these perceptions had recently been altered. Change had occurred as a result of direct or indirect experiences of infection:

“Unfortunately for me, I had a little run in with it ... so it kind of brought things down to earth like. It actually made me aware of what’s around me. I suppose I’ve had the experience now ... they do say you learn from your mistakes” [M1]

“What’s recently happened to a couple of my friends has affected me, I’ve been a bit worried and that’s why I’ve brought myself down here (the GUM clinic) to make sure I’m alright” [F5]

This suggests that experience of infection whether personal or vicarious may serve to increase perceptions of vulnerability. A number of respondents commented on their mistakenly low perceptions of prevalence prior to infection created by the unwillingness of people to disclose infection:

“No one says, ‘oh I’ve got the clap’, people keep it to themselves, so you don’t actually get an idea of how bad it is” [M15]

Young people’s exposure to a false picture of prevalence may be contributing underestimations of susceptibility.

Discussion

In this study, young GUM attendees were found to make judgements about the risk of becoming infected with chlamydia by assessing the perceived seriousness of, and susceptibility to, infection. Assessments about the seriousness of infection were made by considering the controllability of symptoms and the long-term health consequences of infection. Judgements about personal susceptibility were made by considering the extent to which personal exposure placed one in contact with chlamydia and the prevalence of infection amongst peers. A number of important beliefs were evident which informed perceptions of susceptibility and severity in unhelpful ways. These beliefs could reduce motivation to adopt protective behaviour.

This study has provided a new understanding of the beliefs underlying young adults' perceptions of the risk of chlamydia. The qualitative approach selected has generated findings that are strongly grounded in the data without influence from pre-existing knowledge of risk perception theory. The findings should however be interpreted in the context of the study limitations. Some caution should be taken in generalising these results given that the population was drawn from a single English city and that contribution from individuals at the upper end of the at-risk age group was not achieved. Participants were also attending a GUM clinic and therefore may have been biased towards having a greater awareness of STIs.

Second, whilst every effort was made to create a relaxed and non-judgmental environment, the sensitive nature of the interviews made self-disclosure difficult for some respondents which may have limited the potential richness of the data. In addition, despite the interviewer endeavouring to separate themselves from the medical profession and adopt a non-authoritative stance, there is also the potential for interviewer effects to have influenced the content of the respondents' accounts. Finally, it is acknowledged that risk perceptions are often not something that are consciously constructed but instead formed 'on the spot'. It is

accepted that in asking young adults to think about chlamydia, risk perceptions become constructed and as such do not necessarily reflect true representations of reality. This problem is not however something that can be overcome and it is hoped that in spite of this, the findings do nevertheless provide insight into their underlying structure.

The way in which chlamydia risk perceptions were formed by respondents in this study reflects existing health psychology theory. In particular, the beliefs that emerged reflect elements of illness risk representations described by Cameron (2003). Cameron (2003) proposed that severity estimates were based on two attributes of risk representations, namely controllability and consequences. In particular, beliefs that an illness could be controlled through treatment, and has little or no physical or disabling consequences were linked to low perceived severity. The findings of this study support this assertion. There was a common understanding amongst respondents that chlamydia was easily treatable. Furthermore, respondents didn't perceive chlamydia to have threatening consequences, particularly in relation to other negative outcomes of unprotected sex, such as HIV and pregnancy.

There was evidence of unhelpful beliefs underlying severity appraisals. These may be altering assessments of chlamydia risk amongst some young adults. The first relates to the belief that chlamydia can be easily treated. Given that the majority of cases are thought to be asymptomatic (Foo, Browne, & Boag, 2004; Land, Van Bergen, Morre, & Postma, 2010; McKay, Clery, Carrick-Anderson, Hollis, & Scott, 2003), it is unlikely that testing will be sought and consequently treatment administered, unless visible signs of infection are present. This suggests that some young adults may be being falsely reassured by treatment beliefs. Exposing the link between symptom and treatment beliefs may be an effective strategy in raising perceptions of severity. In relation to the consequences of infection, respondents viewed infertility as a less serious outcome than others with more immediate impact. This is consistent with evidence suggesting that distal but potentially serious consequences of

unprotected sex often carry relatively low weight in the decision making process (Kegeles, Adler, & Irwin, 1988). Exposing young adults to the reality of how the bacterial infection spreads and causes damage throughout the reproductive organs in the weeks immediately following transmission may be more effective in raising perceptions of severity than focusing on infertility. Respondents in this study also had low awareness of pelvic inflammatory disease, a potentially very painful condition. Drawing attention to this more short-term health consequence may also have merit.

The underlying content of likelihood as delineated by Cameron (2003) also shares similarities with how respondents made judgments of susceptibility in this study. Cameron (2003) proposed that likelihood estimates are based on the attributes of cause, identity and timeline. Identity and timeline attributes did not emerge as distinct themes within the analysis. Causal risk beliefs, viewed as relating to both personal and environmental factors that place one at risk, were however evident. Exposure and prevalence identified in this study can be considered as personal and environmental factors respectively. In accordance with illness risk representations, if young adults believe that their sexual practices protect them from becoming infected and that the occurrence of chlamydia within the population is low, that their perceptions of susceptibility will be low. Our data supports this prediction. The majority of respondents believed that they were less susceptible than their peers to infection as a result of minimising their potential exposure. Whether this reflects unrealistic optimism (Weinstein, 1980), or is a function of respondents having recently adopted greater precautionary behaviour following experience of STIs, was not established and requires further investigation. There was also evidence that perceptions of susceptibility were linked to beliefs about the prevalence of infection within society. Although respondents were aware of the high prevalence of chlamydia amongst their peer group, this appeared only to impact on perceptions of susceptibility when either they or a close friend experienced infection. This

suggests that amongst the wider population, low perceptions of susceptibility may be falsely maintained unless statistical prevalence data becomes personalised.

As with severity estimates, there was evidence of unhelpful beliefs, this time contributing towards judgments of susceptibility. Respondents were found to make assessments about the potential threat of infection posed by a sexual partner based on overt characteristics. This suggests that some young people whilst aware of the risk of infection are using strategies to reduce personal exposure which offer a false sense of protection. The strategies used to make judgements differed between men and women, with men more likely to base assessments on reputation, and women more on physical or material attributes. Indirect approaches to assessing safety such as these, in which individuals use the image of a typical infected individual on which to base decisions, have been reported elsewhere (Agocha & Cooper, 1999; Hoffman & Cohen, 1999). Partner assessments such as these are not however a reliable means of protection against STIs.

This study has a number of implications for practice. Health care providers and educators delivering education on STIs should target unhelpful beliefs that may be leading young people to underestimate their risk of becoming infected with chlamydia. GUM clinician-patient dialogue could be used to provide key information and messages. The UK Chlamydia Screening Campaign could also provide a vehicle for the delivery of health education. Perceptions of seriousness could be targeted by highlighting the false reassurance provided by treatment beliefs given the unlikelihood of treatment being sought, and by increasing awareness of immediate and potentially serious internal damage and health consequences caused by infection. Perceptions of susceptibility could be targeted through highlighting the fallibility of using overt characteristics to judge the likelihood that a potential sexual partner poses a risk of infection. Cognitive restructuring techniques aimed at identifying how to assess the risk of infection by partners, and exploring the pros and cons of

using these (Hoffman & Cohen, 1999), may be effective in targeting such errors. Perceptions of susceptibility could also be increased using techniques that encourage individuals to personalise the true prevalence of infection.

Conclusions

This study provides evidence that young adults engaging in risky sexual behaviour may be underestimating their risk of acquiring chlamydia during the process of forming susceptibility and severity estimates due to unhelpful beliefs. This indicates that the failure of some young adults to adopt safe sex practices may in part be attributed to an underestimation of STI risk. As the findings relate to GUM patients, further research is needed to establish whether the way in which this group perceive the risk of infection is representative of young adults more widely. Further research is also needed to explore whether young adults who report consistent condom use behaviour also share the same unhelpful beliefs. Similarities between the way in which the risk of chlamydia was perceived in this study, and the structure and content of illness risk representations proposed by Cameron (2003), suggest that this theoretical framework could be useful in developing future health education interventions.

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