

A thesis submitted in partial fulfilment for the degree of

Clinical Psychology Doctorate

VOLUME I

RESEARCH COMPONENT

**Sexually Transmitted Diseases:
Psychosocial Impact, and the Influence of Stigma, Shame and
Perceived Risk upon Sexual Behaviour**

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Overview

This thesis is submitted in partial fulfilment for the degree of Clin.Psy.D from the School of Psychology, the University of Birmingham.

Volume I contains the research component of the thesis; this consists of a literature review, an empirical paper and an executive summary. The first paper presents a qualitative meta-synthesis on the psychosocial impact of an STD at the individual level. The second, which is the empirical paper, uses quantitative methods to explore the relationship between STD related stigma, shame and sexual behaviour in adolescents. It is intended that both papers will be submitted to the International Journal of Sexual Health for publication (see appendix 1 for publication guidelines).

Volume II contains five clinical practice reports (CPRs) completed throughout the course. CPR1 presents the formulation of an 8 year old girl with separation anxiety from cognitive behavioural and psychodynamic perspectives. CPR2 is a service evaluation of health visitors views of a consultation service provided by CAMHS staff. CPR3 presents a single case experimental design of a behavioural intervention with a 28 year old male displaying challenging behavior following a severe traumatic brain injury. CPR4 presents a case study of a 54 year old woman with chronic pain and longstanding depressions. CPR5 is represented in the form of an abstract outlining the case of a 19 year old girl who had experienced a traumatic bereavement.

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Paper to be edited for submission to "International Journal of Sexual Health"

**THE PSYCHOSOCIAL IMPACT OF AN STD
DIAGNOSIS ON THE INDIVIDUAL:
A QUALITATIVE SYNTHESIS**

Literature Review

Abstract

This review aimed to explore the psychosocial impact of a sexually transmitted disease diagnosis at the individual level, by drawing together existing qualitative research on this topic. A search of the literature from 2000-2013 was conducted using the PubMed, PsycINFO and Web of Science databases and 11 relevant papers were identified. A meta-ethnographical review (Noblit & Hare 1988) of the 11 identified papers was conducted. Several common themes in the experiences of people diagnosed with an STD were identified, including: Impact on partner relationships, emotional reactions, self-identity, ways of coping and issues around disclosure. The results of the synthesis suggested that an STD diagnosis could have a significant impact on a person's view of themselves, their functioning and their relationships. The results are discussed with reference to relevant literature and theory, and implications for practice and future research are considered.

Keywords: STDs, Psychosocial, Qualitative, Review

Introduction

Sexually transmitted diseases (STDs) have high rates of prevalence in western populations. In the United Kingdom, the most at risk populations are young people aged 16-25 and men who have sex with men (Family Planning Association, 2010). Chlamydia is the most common STD in the UK with estimates of 1 in 10 under 25s being affected (FPA 2010). In the UK, between 2010 and 2011, cases of Gonorrhoea rose by 25%, Syphilis by 10%, Herpes by 5% and genital warts by 1% (HPA, 2012). There are differences in the symptoms and course of STDs – some, such as Chlamydia and Gonorrhoea are curable and easily treated with antibiotics if caught early. Others are life-long conditions that may require long term treatment and can cause the sufferer pain and discomfort during an outbreak, e.g. Herpes Simplex virus (HSV) and genital warts. Some STDs can also have consequences for fertility - Chlamydia is often asymptomatic and if left untreated can lead to fertility problems in women (Paavonen & Eggert-Kruse, 1999). There is also a risk of women passing on STDs during childbirth which can prove dangerous to unborn babies. Over recent years more attention has been paid to human papillomavirus (HPV) which has several different strains, and is particularly relevant to women due to its link with cervical cancer (Walboomers et. al., 1999). Recently, a programme has been introduced to vaccinate adolescent girls against HPV, and women are now routinely tested for this STD during cervical screening.

Quantitative research has suggested that an STD diagnosis can impact on both the psychological and social functioning of individuals. McCaffery et. al (2004) found women who tested positive for HPV were significantly more anxious and distressed than those who tested negative, and felt worse about their relationships. Kwan et al. (2011) found that at the time of diagnosis HPV positive women had significantly higher state anxiety, worry about cancer and psychosocial burden than those who tested negative. However this difference was not found at a 6 month follow up. In a Canadian study, Chen, Wu, Yi, Huang and Wong (2008) found a significant association between STD

history and depression for women. Barnack-Tavlaris, Reddy and Ports (2011) found women living with genital herpes reported a low quality of life and found a significant relationship between quality of life and perceived stigma. High levels of self-blame have also been found in adolescent girls with an STD (Baker et al. 2001).

The value of qualitative research in STDs has been noted (Power 2002), however only a limited number of qualitative papers have explored how STDs may impact psychologically and socially on those with a diagnosis. Qualitative research enables a more detailed exploration of individuals' experiences and provides richer information than quantitative research (Power 2002). To the author's knowledge, a review of the qualitative research in this area has not yet been conducted. Therefore the aim of the present paper was to draw together existing qualitative research on the psychosocial impact of an STD at the individual level, and to identify common themes/contradictory findings.

Method

Meta-synthesis/ ethnography

Meta-synthesis refers to a process of synthesising/amalgamating the findings of qualitative research. Meta-synthesis aims to pull together existing themes and findings. As a method meta-synthesis is gaining in popularity (Atkins et al. 2008), however its methods are still evolving (Ring, Ritchie, Mandova & Jepson 2011).

There has been some debate over whether it is possible or appropriate to combine findings from papers using different qualitative methodologies such as grounded theory and thematic analysis (Murphy et al. 1998). However, Sandelowski and Barroso (2003) found that much qualitative research was presented in a similar way, despite the use of different methodologies. There has also been some disagreement over how papers should be selected, for example whether they should have similar settings/contexts. Nonetheless, the value of meta-synthesis has been noted for purposes such as gaining new insights into patient experience, and to contribute to decision making in health services (Ring et al., 2011).

There are several approaches to conducting a meta-synthesis, including narrative, thematic and interpretive methods. One such interpretive approach is meta-ethnography, first described by Noblit and Hare (1988). Meta ethnography can be used to “reinterpret meaning across qualitative studies” (Atkins et al. 2008) and aims to provide a higher level of analysis that is greater than the sum of its parts. Meta ethnography has been increasingly used in health research (Atkins et al. 2008) to examine patients’ experiences of conditions such as diabetes (Campbell et al. 2003) and adherence to tuberculosis treatment (Munro et al. 2007). It is suited to small numbers of papers (Sandelowski & Barraso, 2003). For the purposes of this review, a similar process was used to that described by Atkins et al. (2008).

Process of synthesis

Noblit and Hare (1988) identified seven steps for conducting a meta-ethnography (in Ring, et. al 2011)

1 – Getting started (the search)

2 – Confirming initial interest

3 – Reading studies and extracting data

4- Determining how studies are related (identifying common themes and concepts)

5 – Translating studies (checking first and/or second order concepts and themes against each other)

6- Synthesising translations (attempting to create new third order constructs)

7 – Expressing the synthesis.

Search criteria

Inclusion criteria

- Papers focussing on people who have received/ are living with a diagnosis of a sexually transmitted disease.
- Papers exploring the psychosocial impact of this diagnosis
- Papers using qualitative methods to explore the impact of a diagnosis
- Peer reviewed journals
- English language papers
- Papers published from 2000 to present (as initial literature searches did not identify any relevant qualitative papers prior to this date.)

Exclusion criteria

- Papers focussing on HIV/AIDS (this was excluded because, although a sexually transmitted infection, HIV is a more serious and life limiting infection, which is not as prevalent in a Western context as STD's such as Chlamydia/ Genital warts etc. It was also considered that a review focussing on the psychosocial impact of STDs other than HIV, which are often considered to be less serious than HIV, would be worthwhile in it's own right.)
- Papers which asked participants to think about their reaction to an imaginary diagnosis of an STD, (as it was felt this would not reflect genuine experiences of those living with an STD)
- Papers focussing on experiences of screening for STDs/views about testing
- Papers which explored views of those testing negative for STD's
- Review papers
- Papers using quantitative or mixed methods

Literature searches were conducted using the Pub Med, PsycINFO, and Web of Science databases. Initial searches were conducted in August 2012, and the final literature search completed in March 2013.

Search terms for Pub Med

- 1) Sexually transmitted disease OR sexually transmitted infection OR STI OR STD
- 2) NOT HIV
- 3) Psychosocial

Search terms for Psycinfo and Web of Science

- 1) Sexually transmitted* (NOT HIV)
- 2) Psychosocial
- 3) Combine 1 and 2

Following the initial search, titles and abstracts were screened for relevance according to the exclusion and inclusion criteria. Figure 1 displays the process used to reach the final set of papers. The search terms were not particularly effective in locating relevant articles, as only 5 relevant papers were identified through the database search. However, Flemming & Briggs (2007) noted that it can often be difficult to locate qualitative research as articles are often poorly indexed. Further articles were identified by hand searching the reference lists of the five papers obtained through the literature search, and from the reference list of Hood and Friedman (2011).

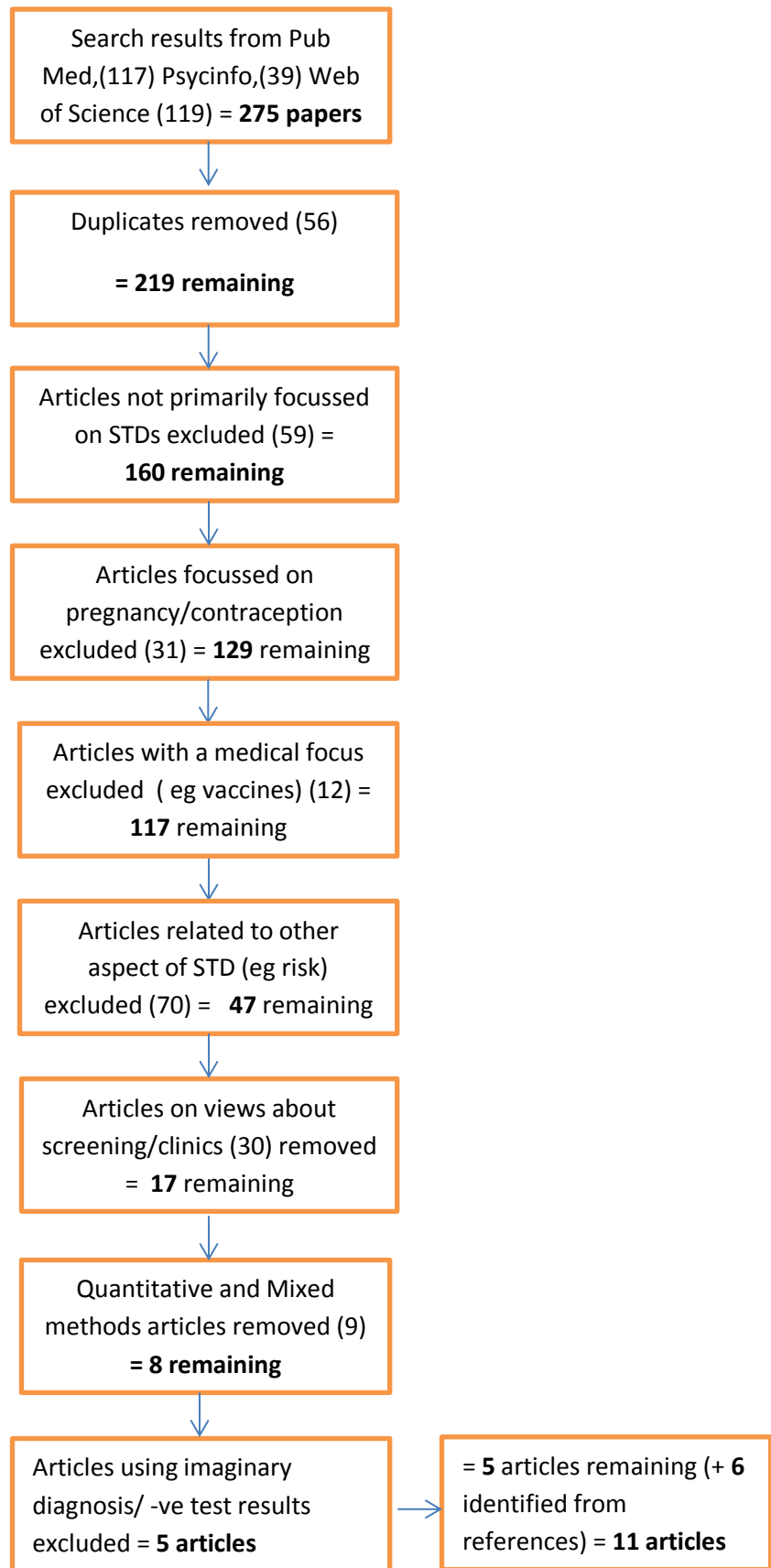


Figure 1 – Flowchart displaying process of selecting articles for review

Quality review

The next stage of the screening process involved a quality review. The importance of reviewing the quality of papers using qualitative methods has been emphasised, and several published meta-synthesis have included such frameworks in their process (Thomas & Harden 2008, Campbell et al. 2003). The use of a quality framework can allow the reader to draw conclusions about the credibility of the synthesis.

For this review, the quality of the final papers was examined using the CASP framework for qualitative research (Critical Skills Appraisal Programme, 1998). This framework was chosen because it could be generalised to different qualitative methods. A version of the CASP framework was employed by Atkins et al. (2008) and Campbell et al. (2003) in their meta-ethnographies.

It asks 10 questions of the paper's quality, of which the first two are initial screening questions. For the purposes of this review, it was decided papers would not be included if they did not meet the criteria of the two screening questions.

1. Was there a clear statement of the aims of the research?
2. Is a qualitative methodology appropriate?
3. Was the research design appropriate to address the aims of the research?
4. Was the recruitment strategy appropriate to the aims of the research?
5. Were the data collected in a way that addressed the research issue?
6. Has the relationship between researcher and participants been adequately considered ?
7. Have ethical issues been taken into consideration?
8. Was the data analysis sufficiently rigorous?
9. Is there a clear statement of the findings?
10. How valuable is the research?

(For further details/prompts for each question, please see Appendix 2)

These questions were asked of each paper. All of the selected papers met the criteria of the two screening questions; therefore they were all kept for review. For each of the remaining eight questions, the paper was given a score of 2 if it fully met the criteria, 1 if it partially met the criteria and 0 if it did not meet any of the criteria. The maximum score was out of 16. All papers scored more than 10, suggesting that overall the papers were of reasonable quality (see Table 1). An area where the majority of papers scored poorly was the relationship between researcher and participants. Few researchers gave consideration in their paper to how this relationship may have influenced their results. It was also noted that some of the papers were vague in either their descriptions of the chosen method of analysis (e.g. Newton & McCabe 2008a), or the exact procedure they followed for their analysis (E.g. Mortensen & Larsen 2010a/b). This has been identified as a widespread issue with published qualitative research (Sandelowski & Barroso 2003), and Atkins et al. (2008) reported similar findings when conducting their meta-ethnography. As all papers scored at least 10 on the quality framework, it was felt that none were poor enough to merit exclusion. However, due to the deficiencies noted above, the findings of the synthesis do need to be treated with some caution.

Paper (first author)	Appropriateness of design	Recruitment strategy	Data collection	Relationship (researcher and participants)	Ethical issues	Data analysis	Statement of findings	Value of research	Total (out of 16)
Perrin et al. 2006	2	2	2	0	2	1	2	2	13
Duncan et al. 2001	2	2	2	0	1	1	2	2	12
Melville et al. 2003	2	1	2	1	1	2	2	2	13
Mccaffery et al. 2006	2	2	2	1	1	1	1	2	12
Nack 2000	2	2	2	1	2	1	1	2	13
Newton & McCabe 2008a	2	2	1	1	1	1	2	2	12
East et al. 2010	2	2	2	1	2	1	1	2	13
Mortensen & Larsen 2010 (a)	2	2	2	0	1	1	2	2	12
Mortensen & Larsen 2010 (b)	2	2	2	1	1	1	2	1	12
Mulholland & Van Wersch 2007	2	2	2	1	1	2	2	2	14
Darroch et al. 2003	2	2	1	0	1	1	2	1	10

Table 1- Quality framework based on CASP

3) Reading studies and extracting data

Each paper was read thoroughly and initial thoughts about common/ recurring themes were noted. A table was compiled including details of participants, methods and settings, type of analysis and the main themes/subthemes for each paper (see Table 2).

It was noted that the papers seemed to fall into one of two categories – papers relating to a recent diagnosis of an STD (Perrin et al. 2006 , Duncan et al. 2001, McCaffery et al. 2006, Darroch et al. 2003, Mulholland & Van Wersch 2007) and those which explored the views of those who had been living with a chronic STD (Nack 2000, East et al. 2010, Newton & McCabe 2008, Mortensen & Larsen 2010 a&b). Consideration was given to whether these different contexts could be analysed together. As there appeared to be commonalities in the themes reported between the two categories , it was decided that it would be appropriate to synthesise the findings.

4) Determining how studies are related

Themes from each paper were written out on a large sheet of paper, then links were made by grouping those with similar content together (e.g. ‘living in denial’ from East et al.2010 and ‘passing’ from Nack 2000). These tentative themes were kept in mind for the next stages.

5) Translating studies

This involved translating themes and concepts from each study into each other. “First order” (original quotes from participants) and “second order” (authors’ interpretations) constructs were considered as part of this process. Notes were made on the themes identified by the authors of each study, taking into account the theme title, supporting quotes and authors comments. As the themes were generally similar across studies, Noblit and Hare (1988) describe this as a “reciprocal translation”. Similar to Atkins et al. (2008), this involved comparing the themes of the first paper with the second, then the combined themes of these two papers with paper 3, and so on. The initial themes from stage four guided this process, however I also looked out for new emerging themes

Authors and Title	N	Sample	Setting/ Method	Analysis	Main themes
1) Perrin et al. (2006) Womens reactions to HPV diagnosis: Insights from indepth interviews	52	Women over 18 recently diagnosed with HPV at one of 3 clinic sites in USA Participants aged 28 to 44, mean age 24.3. White, black, hispanic, and asian women.	Semi structured in depth interview, face to face within two weeks of diagnosis. 1hr-1 hr 30 mins long Interviews tape recorded.	Qualitative “iterative process” Ethnograph used	<ul style="list-style-type: none"> • Stigma (promiscuity) • Fear (what will happen, cancer, fertility) • Self blame (shame/guilt, should have protected self, disappointed, sometimes not knowing where they caught it from) • Powerlessness • Anger
2) Duncan et al. (2001) Qualitative analysis of psychosocial impact of diagnosis of Chlamydia trachomatis: implications for screening	17	Women recruited from clinics in Glasgow with a recent or previous diagnosis of Chlamydia	Tape recorded semi structured interviews, conducted in clinic setting or women’s homes, open ended questions	IPA	<ul style="list-style-type: none"> • Stigma attached to STIs, • Uncertainty about the future, (reproductive health) • Anxieties re. male partners reactions

Table 2– Description of each paper included in the review

Authors and Title	N	Sample	Setting/ Method	Analysis	Main themes
3) Melville et al. (2003) Psychosocial impact of serological diagnosis of herpes simplex virus type 2	24	Men and women (58% women) who tested positive for herpes, recruited from clinics in US including STD, maternity, family medicine and virology research clinics. 7 women were pregnant.	Semi-structured, indepth interviews	Constant comparative, following grounded theory	<ul style="list-style-type: none"> • Short term emotional responses • Short term psychosocial responses • Perceived ongoing responses
4) McCaffery et al. (2006) Social and psychological impact of HPV testing in cervical screening	74	Women who tested positive and negative (most quotes from positive) for HPV, variety of ethnic backgrounds recruited from clinical trials of HPV testing in Manchester and London	In depth interviews conducted in women's homes.	Framework analysis	<ul style="list-style-type: none"> • Social and psychological response (<i>general psychological response, concerns re sexually transmitted nature of HPV</i>) • Factors influencing social and psychological response
5) Nack (2000) Damaged goods: women managing the stigma of STDs	28	Women with chronic STD diagnosis, (genital herpes and HPV). Aged 19-36.	In depth, conversational unstructured interviews, 1-2 hours long, conducted at variety of locations chosen by participants.	Grounded theory, Constant comparative	<p>"Three stage process of reconciling spoiled sexual selves"</p> <ul style="list-style-type: none"> • Passing for healthy, (lying, covering, deception and guilt, consequences of passing) • Stigma transference to deflect blame onto real and imaginary others • Disclosure to partners

Table 2– Description of each paper included in the review

Authors and Title	N	Sample	Setting/ Method	Analysis	Main themes
6) Newton & McCabe (2008a) STIS: impact on individuals and their relationships	60	60 people. 30 with HPV, 30 with herpes, recruited via internet support groups. Equal numbers of men women	Interviewed via email	General inductive approach	<ul style="list-style-type: none"> • <i>Impact of stigma associated with having an STI</i> • <i>Impact of STI on sexuality</i> • <i>Impact of STI on relationships</i> • <i>Feelings about disclosure to partner</i>
7) East et al. (2010) Disrupted sense of self: Young Women and STI's	10	Women with past or present diagnosis of an sti (not HIV/Hep) Recruited via adverts in clinics, websites	Online unstructured interviews	Thematic analysis – guided by feminist narrative	<ul style="list-style-type: none"> • <i>Self perceived invulnerability (this can't happen to me)</i> • <i>Self blame and shame (I feel so foolish)</i> • <i>Self preservation (living in denial)</i>
8) Mortensen & Larsen 2010 (a) Quality of life of patients with genital warts	10	5 males, 5 female aged 18-30 Recruited from STI clinic in Denmark	Focus groups, conducted in clinic setting	Medical anthropological approach Nvivo used	<ul style="list-style-type: none"> • <i>Illness perceptions: the cognitive model of Genital warts</i> • <i>The effects of GW on patients love and sex lives</i> • <i>The psychological effects of having GWs</i> • <i>The social impact of having GWs</i> • <i>The impact of treatment for GWs</i>
9) Mortensen & Larsen 2010 (b) Quality of life of homosexual males with genital warts	6	Homosexual men with genital warts. Aged between 31 and 59 Recruited through STI clinic in Denmark and media	Semi-structured Interviews	Medical anthropological approach	<ul style="list-style-type: none"> • <i>The perception of GWs among men who have sex with men</i> • <i>GWs in the social context</i> • <i>The effects of GWs on participants sex and love lives</i> • <i>The physical and psychological effects of having GWs</i>

Table 2– Description of each paper included in the review

Authors and Title	N	Sample	Setting/ Method	Analysis	Main themes
10) Mulholland & Van Wersch (2007) Stigma, STI's and attendance at the GUM clinic	10	Heterosexual males, and females testing positive for STI (chlamydia, gonorrhoea, genital warts, some with two infections)	Tape recorded semi structured interviews, 20-45mins, open ended questions	Thematic analysis, (inductive and deductive Methods)	<ul style="list-style-type: none"> • <i>Prejudice surrounding STDs</i> • <i>Fear of exposure</i> • <i>Isolation</i> • <i>Reluctance to attend</i> • <i>Contamination</i> • <i>Relationship issues</i> • <i>Perceived invulnerability</i>
11) Darroch, Myers & Cassell (2003) Sex differences in the experience of testing positive for genital chlamydia infection: a qualitative study with implications for public health and for a national screening programme	24	Heterosexual patients (12 men, 12 women) who tested positive for chlamydia at a sexual health clinic in London	Tape recorded semi-structured interviews	Thematic analysis	<ul style="list-style-type: none"> • <i>What is chlamydia?</i> • <i>Initial reactions to diagnosis</i> • <i>Anxieties about future reproductive health (a female concern)</i> • <i>Overcoming partner notification fears</i>

Table 2– Description of each paper included in the review

that had not previously been noticed. If a theme was only found in one paper, it was not included in the next stage of the process.

6) Synthesising translations

This involved producing “third order” overarching themes from those identified at stage five. My notes and interpretations were written out on a large sheet of paper with similar themes and concepts grouped together (e.g. those that related to emotional reactions to diagnosis). I then developed titles to describe each group of concepts (which became the overarching themes).

There was some overlap between sub themes that occurred in different contexts, for example isolation (partner relationships) and avoidance (ways of coping), were initially separate sub-themes, however it was considered that isolation was a consequence of using the coping strategy of avoidance, so these themes were merged into one – avoidance/isolation (under the overarching theme of ways of coping).

Results

7) Expressing the synthesis

Despite their different contexts, the papers tended to explore themes around emotional reactions to diagnosis of an STD, relationship issues, worries about disclosure and the impact of an STD on self-identity. Table 3 displays the final overarching themes that were identified, and original quotes from papers which evidence each theme.

Overarching theme	Subtheme	Papers	Supporting quotes
Impact on Partner relationships	<i>Trust/ infidelity</i>	Newton and McCabe 2008a, East et al. 2010 , Darroch et al. 2003, Mccaffery et al. 2006 Mulholland & Van Wersch 2007	<p>“ I thought I was in a monogamous relationship and was totally devastated and shocked when I found out the truth. I think I was naïve and foolish”</p> <p>“he says it’s not him but I’ve not slept with anyone else, he’s the only one. I’d never slept with anyone before but I’ve finished with him now after hearing that. Yeah I was very upset. I spoke to him on the phone but he just kept saying he didn’t have it, it wasn’t from him”</p> <p>“like I’ve only had one partner and- I was distraught at the fact that he might be sleeping with someone behind my back – all that on top of it and I was just – just gutted – there’s no other way to describe it”</p>
	<i>Bringing closer</i>	Newton & McCabe 2008a Mccaffery et al. 2006 Melville et al. 2003	<p>“I found out I had HPV 3 years into my current relationship..nothing changed. He still accepts me regardless of HPV. Since I ultimately passed the virus onto him, I was afraid he would start to resent me and our relationship. But just the opposite happened. We became closer and our love grew in leaps and bounds.”</p> <p>“he was really supportive about it. It was me saying to him it’s because I’ve been stupid and blah blah...and he was saying well maybe it’s not, how do you know?”</p>
	<i>Staying with partners</i>	Newton & McCabe 2008a Melville et al. 2003	<p>“if we ever break up we know we’ll have to deal with it and explaining it to our next partner. (It) has made us feel like, well gosh this is something to make you think more carefully about ever breaking up”</p>
	<i>Intimacy</i>	Newton and McCabe 2008a Mortensen & Larsen 2010 a & b Melville et al. 2003	<p>“Having an STD had affected my sexual life because when I have intercourse I feel scared of passing the HSV onto the woman I’m with and I don’t enjoy the experience the same way I used to.”</p>

Table 3 – Overarching themes and subthemes

Overarching theme	Subtheme	Papers	Supporting quotes
Emotional reactions	<i>Initial Shock/ disbelief</i>	East et al. 2010 Darroch et al. 2003, Melville et al. 2003	"I thought I was in a monogamous relationship and was totally devastated and shocked when I found out the truth. I think I was naïve and foolish"
	<i>Internalising (shame, guilt, self blame)</i>	East et al. 2010 Mortensen & Larsen 2010 Nack 2000 Perrin et al. 2006	"I felt ashamed. Looking back I know I did not do wrong but I felt dirty and used and I felt like I was disgusting....I was filled with shame and it turned into self-hatred in a way... I still can't believe I was treated so badly" "the disappointment I felt was due to my careless actions of engaging in unprotected sex with a male who I was not in a relationship with at the time and having contracted herpes via this means....In hindsight I feel so ridiculously foolish and regretful" "I can only blame myself. Because it was my choice – I just wish I had made an informed decision rather than being lied to...I blame myself for selling myself short. I should have been more careful and choosey..."
	<i>Externalising (anger/blaming others)</i>	Nack 2000 East et al. 2010 Perrin et al. 2006	"so then I thought , oh he was with that floozy, dirty woman before we got back together....it was definitely her. So decided it was her who gave it to him, who gave it to me" "angry. And very emotional. Extremely. I couldn't believe I was going through it. That I had something .You hear anything to do with std, you're like "oh my god" you never really think it will affect you. You hear that a lot of people have it but you never really realised that you can actually be involved with it or that you can be going through something like that. So very angry, very confused"
	<i>Anxiety/fear (of health implications/ transmission)</i>	Perrin et al. 2006, Mccaffery et al. 2006, Duncan et al. 2001	"so for me this is something like oh god, this could lead to cervical cancer. I will never be able to have children. That's really my main concern. Because although I'm not ready now, eventually I will be and I don't want to have complications"
	<i>Relief</i>	Darroch et. al 2003 Melville et al. 2003	"I thought at least its chlamydia, it could have been something much worse, it could have been herpes, it could have been gonorrhoea, and that would be much worse so im glad, not glad but relieved..."

Table 3 – Overarching themes and subthemes

Overarching theme	Subtheme	Papers	Supporting quotes
Self-identity	<i>Being contaminated/ dirty</i>	Nack 2000, Mulholland & Van Wersch 2007, Mccaffery et al. 2006, Mortensen & Larsen 2010 a&b, Newton & Mccabe 2008 a Melville et al. 2003	“because it’s an infection and like in private places and they’re classed as being dirty anyway....you know if I had a cold sore on my lip – that wouldn’t be classed as dirty but because it’s in like private places – then maybe that’s why”
	<i>Identity as a woman/ Promiscuity</i>	Nack 2000, East et al. 2010, Perrin et al. 2006 Mccaffery et al 2006 Mulholland & Van Wersch 2007	“ I guess I wanted to come across as like really innocent and everything just so people wouldn’t think that I was promiscuous, just because inside I felt like they could see it even though they didn’t know about the STD” “so I just feel there’s a stigma associated with this that if you have anything that’s sexually transmitted, you’re automatically thought of as being promiscuous and, you know, dirty, one night stand.....” “I felt like a slapper really- like a tart”
	<i>Sexual self/desirability</i>	Newton and Mccabe 2008a Mccaffrey et. Al 2006 Mortensen & Larsen 2010a and b, , Melville et al. 2003	“I feel like I am a less desirable woman since I have contracted HPV. I feel that most men will reject me and that I am not going to be wanted anymore.” “if I told men that I had it they might not want to have sex with me”

Table 3 – Overarching themes and subthemes

Overarching theme	Subtheme	Papers	Supporting quotes
Ways of coping.	<i>Denial (wishful thinking, carrying on as normal)</i>	East et al. 2010, Nack 2000	<p>“at the time, I was in denial about it. I told myself that that wasn’t what it was because my sister had a similar thing happen, the dysplasia. So I just kind of told myself that it was hereditary...”</p> <p>“with the herpes it was diagnosed with a blood test but I don’t ever remember having it so I suppose I have been in a bit of denial about that. With herpes I have read that it is painful so I think I would know if I had it”</p> <p>“I never told anyone about them (the warts) because I figured they had gone away, and they weren’t coming back. Even after I had another outbreak, I was still very promiscuous. It still hasn’t registered that I needed to always have the guy use a condom”</p>
	<i>Avoidance/ isolating self</i>	Mccaffery et al. 2006 Nack 2000 Newton and Mccabe 2008a	<p>“I hate myself for catching the disease, I hate myself for the possibility I might transmit it to someone. I’ve isolated myself a lot in the past two years. My work allows me to work on my own, I barely talk to anyone because I feel so bad about myself and I’m afraid they’ll discover and reject me.”</p> <p>“I have avoided women I care about. I have actually ended relationships because I am afraid of discussing my herpes. I have not been intimate with a woman for years and even when I felt close to someone the idea of my herpes drove me away from them.”</p>
	<i>Acceptance over time</i>	Melville et al. 2003 Newton & Mccabe 2008a Nack 2000	<p>“If I did think it was my fault, what difference would it make? I’d still have herpes, only I’d also hate myself for it. I really don’t have the energy for that.”</p> <p>“Having HSV-2 affected my self esteem more than anything in the beginning, and in doing so it affected my personal life as well. But as I learned to accept herpes as part of my life and as I learned how common it was...I grew to realise that through my carelessness, I was lucky I didn’t end up with something much worse.”</p>

Table 3 – Overarching themes and subthemes

Overarching theme	Subtheme	Papers	Supporting quotes
Issues around disclosure	<i>Non -disclosure</i>	East et al. 2010, Nack 2000, Newton & McCabe 2008a	" I did not contact previous partners that may have been at risk to warn them because I didn't want them or the whole town to find out I had it and I had no idea how long I may have had it anyway"
	<i>Being "economical with the truth"</i>	Nack 2000, McCaffery et al 2006, Mulholland & Van Wersch 2007, Perrin et al. 2006	"we never actually talked about it being an STD, and she kind of thought that it was the same thing that my sister had which wasn't sexually transmitted" "I didn't tell them anything about it being an STD. I told them about a high risk cancer but I didn't tell them that it was sexually active, from that, because I didn't want them to think that I was with anybody and everybody. So I just didn't mention it at all"
	<i>Fears about disclosing to partners</i>	Nack 2000, McCaffery et al 2006 , Duncan et al. 2001, Mulholland & Van Wersch 2007	"I've infected him and this is the man I want to spend the rest of my life with....how am I going to tell him?" "Fear. You know I was really fearful- I didn't think that he would think I had recently had sex with somebody else – but I was still really afraid of what it would do to our relationship"
	<i>Disclosing to family/friends</i>	Perrin et al. 2006, Nack 2000, Mulholland & Van Wersch 2007	"(I wouldn't tell) My mom. I just don't want her to think I'm some whore or something like that just because it's an STD" "I just think she would freak out. And she's just very conservative and she has this image of me.." "I just don't want them to- to think I'm dirty- I think that's the main thing you know- because-er-like my best friend- she's my best friend in the world- I can really tell her anything-but this- I just don't want to tell her-I just would rather not tell her- I don't want her to think anything worse"
	<i>Being open/honest</i>	Newton & McCabe 2008a, Nack 2000	"I have no problem disclosing my condition to a potential partner, I have the legal and moral responsibility to do so. Everyone has the right to make an informed decision. The cycle has to be broken somewhere or the disease will keep spreading", "...before I have a sexual relationship with a partner I discuss sexual history with them and take responsibility for it"

Table 3 – Overarching themes and subthemes

Impact on partner relationships

A theme that was common across the majority of papers was the impact an STD diagnosis had upon partner relationships.

Trust/Infidelity

In several of the studies, an STD diagnosis brought up issues of trust and possible infidelity. (Darroch et al. 2003, Mccaffery et al. 2006, Newton and Mccabe 2008a, East et al. 2010 , Mulholland & Van Wersch 2007). Some women questioned whether they had contracted an STD because their partners had been unfaithful, or indeed found out that they had cheated (Mccaffery et al. 2006). Women were left dealing not only with the fact that they had an STD but also potentially the breakdown of their relationship (Mccaffery et al. 2006, Darroch et al. 2003).

Staying with partners

Some participants mentioned that having an STD impacted on their decision to stay with their current partner. For some, this was because they both had an STD (Melville et al. 2003). In one study, a participant stayed in an unhappy relationship because her partner was understanding about her STD “My previous relationship was a horrible relationship, but the man that I was with did not have a problem with my HPV status. He was there for me if he thought that I was feeling bad about my HPV” (Newton & Mccabe 2008a).

Bringing closer

A small number of participants felt that their STD diagnosis had brought them closer to their partner (Newton and Mccabe 2008a, Mccaffery et al 2006, Melville et al. 2003).

Intimacy

Several studies found that a diagnosis had limited participants' sex lives due to decreased libido (Melville et al. 2003, Mortensen & Larsen 2010 a& b, Newton & Mccabe 2008a,) feeling less

sexually desirable, and fears about transmission of the STD (Newton & McCabe 2008a). Some avoided sex altogether because of their STD (Mortensen & Larsen b, Newton & McCabe 2008a, East et al. 2010). This sub theme links with sexual self/desirability (discussed as part of Self Identity).

Emotional reactions

Initial Shock/disbelief

This appeared to be a common initial reaction, with several participants across different studies commenting that they did not think it would happen to them (East et al. 2010, Darroch et al. 2003, Melville et al. 2003, Duncan et al. 2001). This was relevant for people who had received STD testing when attending for cervical screening (Perrin et al. 2006, Mccaffery et al. 2006), and had not specifically sought out STD testing.

Anxiety/Fear

Participants reported a variety of worries following their diagnosis, including concerns about future fertility (Melville et al. 2003, Duncan et al. 2001), whether they had unknowingly transmitted the STD to a current or past partner, and whether an STD might affect their unborn child (Melville et al. 2003). For studies looking at HPV, women worried about the possibility of developing cervical cancer (Mccaffery et al. 2006, Perrin et al. 2006 et al.).

Internalising (shame, guilt, self blame)

Many participants reported feelings of shame and self blame when they were diagnosed with their STD – this appeared to be a common theme regardless of the type of infection (East et al. 2010, Mccaffery et al. 2006, Mortensen & Larsen 2010b, Perrin et al. 2006, Mulholland & Van Wersch 2007). “It just made me feel so dirty...theres a sort of shame, there’s a leper type deal to it.”(Mccaffrey et al. 2006). Mccaffery et al. noted that only women who were aware of the sexually

transmitted nature of HPV reported feelings of shame. Melville et al. proposed that guilt was related to possibly infecting a current or past partner or “bringing a disease into the house”.

Feelings of shame, and of being stigmatised, appeared to be more common in the female participants, and may be related to issues around promiscuity (discussed as part of the self-identity theme). However, in Mortensen & Larsen’s (2010 b) study, gay men infected with genital warts felt it was very shameful and blamed themselves: “I let myself get infected, and it’s my own fault!”

Several studies noted that participants held themselves solely responsible for contracting the infection (East et al. 2010 et al., Perrin et al. 2006). Authors commented that women appeared to take the blame over men (Darroch et al. 2003) although they did not know who the source of infection was. People felt they had let themselves down in some way, and had failed in the high standards they had previously set for themselves.

Externalising (anger, blaming others)

Although less common than the internalising reactions noted above, some studies found people were very angry and blamed others for their STD (Nack 2000, East et al. 2010). This was sometimes a current partner, but in other cases they chose to blame a previous partner rather than a current one. For some participants this helped them to minimise the impact of the STD on their current relationship. Nack (2000) suggests that the stigma of an STD is transferred to others as a way of coping.

Relief

A small number of participants felt relieved that they had not caught something more serious, (Darroch et al. 2003) or that they had discovered the infection promptly. Others were

relieved to finally have an explanation for symptoms they had been experiencing for a while (Melville et al. 2003).

Self identity

Sexuality/desirability

This subtheme links with intimacy (described in partner relationships). The impact of an STD diagnosis was shown to influence some people's libido and how desirable they felt (Mortensen & Larsen a& b, Newton & McCabe 2008a, Melville et al. 2003). Some avoided sex/sexual relationships altogether because of their STD (Mortensen & Larsen 2010b, McCabe & Newton, East et al. 2010).

Being contaminated/dirty

Feeling dirty and contaminated by an STD was a common theme, found for both women and men in several studies (McCaffery et al. 2006, Mulholland & Van Wersch 2007, Mortensen & Larsen 2010b, Newton & McCabe 2008a, Melville et al. 2003). Women interviewed by McCaffery et al. (2006) reported feeling "dirty" and "infected". Words such as tainted, unclean and disgusting were common descriptions (McCabe & Newton 2008a, East et al. 2010). A participant in Mulholland & Van Wersch's study attributed this feeling of dirtiness to the infection being in "a private place". Several participants in Mulholland and Van Wersch's study talked about "getting rid" of the infection to feel clean. Some studies noted that participants made comparisons with other infectious chronic diseases such as HIV (Mortensen & Larsen 2010 b) and leprosy (McCaffrey et. al 2006).

Identity as a woman/ Promiscuity

Several studies found that women feared that having an STD showed they had behaved promiscuously, and were tainted or spoiled in some way as a result (Nack 2000, Perrin et al. 2006,

Mulholland & Van Wersch 2007). A participant in Mulholland & Van Wersch's study commented "it reflects badly on my character and implies that I sleep around a lot". In studies that included both males and females, the researchers noted that this theme did not seem to occur for males (Mulholland & Van Wersch 2007, Darroch et al. 2003). Participants used several derogatory terms including "slut", "slapper," "tart" and, "whore" to refer to the type of women who catch STDs, and feared that they would now also be viewed in this way (Perrin et al. 2006 et al., Mulholland & Van Wersch 2007). Male participants in the study of Mulholland and van Wersch noted that a woman with an STD might be viewed differently to a man - "for a lass some people might think you were a slut or a slag..that's just the way people think....I think it would be harder for a woman."

Coping strategies

Denial

Some studies found people engaged in a process of denial or wishful thinking as a way of coping with their STD (East et al. 2010, Nack 2000). For some women this appeared to be a conscious process (Newton & McCabe 2008a, East et al. 2010). This was especially true if they had been asymptomatic and had not shown any physical signs of infection. Some people denied the sexually transmitted nature of the infection, preferring to think of it as a genetic / or cell related issue (Nack 2000, Mccaffery et al. 2006). This theme may link with being "economical with the truth" (see Issues around disclosure).

Avoidance

Other people avoided intimate relationships altogether, so they would not need to disclose their status.(McCabe & Newton 2008, Mortensen & Larsen 2010b) This theme was more relevant for people with incurable infections such as genital warts and herpes (Mortensen & Larsen 2010a/b). For some, avoiding relationships or sexual situations helped them avoid potential rejection, but also left them feeling isolated (Newton & McCabe 2008a, Mortensen & Larsen 2010b)

Acceptance over time

Some of the studies focussing on chronic STD's commented on how participants seemed to become more accepting of their condition over time (Melville et al. 2003, Newton & Mccabe 2008a, Nack 2000) and in some cases viewed their diagnosis as a "wake up call" that had made them re-evaluate their behaviour and make changes to their lifestyle.

Issues surrounding disclosure

Fear of disclosing to partners

A common theme across several studies was related to disclosing to partners, whether current or future (Mulholland & Van Wersch 2007, Newton & Mccabe 2008a, Melville et al. 2003, Duncan et al. 2001, Darroch et al. 2003). People feared rejection or the assumptions that might be made if they disclosed their diagnosis to a partner, eg that they had been unfaithful. For some the fear of rejection was so great they chose not to disclose at all (see non-disclosure).

Being open/honest

For those participants with an ongoing infection (Herpes, Genital warts) some felt obligated to inform all of their sexual partners of their diagnosis, whether they were regular or casual (Newton & Mccabe 2008a).

Non-disclosure

Some studies found that people chose not to disclose their infection, in some cases putting their partners at risk. (Nack 2000, East et al. 2010, Newton & Mccabe 2008a). East et al. (2010) noted that some women had found ways of justifying their non-disclosure, for example by taking medication to suppress their herpes symptoms if they were with a partner, and by saying they were at just as much risk from men as they posed to them. Darroch et al. found that men were

reluctant to disclose to their partners and some relied on their partner to “read between the lines” For women with HPV, which is not harmful to men, some chose not to tell their partner as it was less stressful (Mccaffery et al 2006).

Being “economical with the truth”

In studies that included those diagnosed with HPV, some participants chose to partially disclose the results of their test without referring to the sexually transmitted nature of the infection, by referring to cell changes, or pre-cancerous cells (Nack, 2000, Perrin et al. 2006, Mccaffrey et al. 2006). Perrin et al. (2006) suggested that this was a way of the women accessing support without the fear of being judged for having an STD. In some cases this also appeared to serve the function of not admitting to being sexually active , particularly to parents and other family members (Nack 2000, Mccaffrey et al. 2006, Perrin et al. 2006).

Others were deliberately vague about their result, despite being aware of the infections sexually transmitted nature - “I have told my partner that they don’t know where it comes from...obviously he’d look at me in a different light because he’d be like have I got it or has she been with somebody else?”(Mccaffery et al 2006).

Disclosure to family/friends

For some participants, disclosing to family/friends was also a source of anxiety. (Mccaffery et al. 2006, Mulholland & Van Wersch 2007). A female participant interviewed by Mulholland & Van Wersch (2007) felt that although she could tell her best friend “anything” she could not tell her about being diagnosed with chlamydia. Conversely, some participants in Nack’s (2000) study disclosed to family or friends soon after their diagnosis and found this helpful. In some studies, participants discussed religious or cultural stigma relating to their diagnosis or attendance at a clinic, which would prevent them from informing their families (Mccaffery et al 2006).

Discussion

The results provide an insight into the impact an STD diagnosis can have on several areas of a person's life and relationships. There appear to be commonalities across STDs regardless of their type/ curability etc. However, it appears incurable infections such as herpes and genital warts (Mortensen & Larsen 2010a&b, Newton & McCabe 2008a, Nack 2000, East et al. 2010) are more likely to have a longer lasting impact than a curable infection such as Chlamydia (Duncan et al. 2001, Darroch et al. 2003). Newton and McCabe (2005) note that the stigma of certain STDs may be more pervasive than others. Each theme will now be discussed with reference to relevant research and theory.

Impact on Partner Relationships

As found in the results of this review, quantitative research has also highlighted the impact STDs can have upon relationships. Youngkin et al.'s (1998) study of seventy-three women with an diagnosis of Herpes Simplex Virus found that 60% of the women studied said that HSV interfered with their relationships. In a prospective study, Gottlieb et al. (2011) found that women who tested positive for chlamydia were 33% more likely to have separated from a partner at follow up, with the majority of these saying the diagnosis had played a part in the relationship breakdown. Rosenthal et al. (2006) found that people with difficult relationships prior to diagnosis were more likely to "suffer psychosocial" consequences after testing positive for herpes simplex virus (HSV2).

Newton and McCabe (2005b) reviewed the literature around the impact of STD's on relationships and suggested that the type of and length of the relationship is an important factor, with more long standing relationships less likely to be effected. They also noted that there is a lack of research specifically examining the impact of an STD on intimate relationships.

Emotional reactions

Fear and anxiety were reported as common initial reactions to diagnosis. In a quantitative study, Maggino et al. (2007) found that fear and anxiety were the most common reactions following a diagnosis of HPV, whereas only 3% of participants reacted with anger. Mark, Gilbert & Nanda (2009) found that out of 83 women recently diagnosed with genital herpes, many felt ashamed, and 64% were rated as anxious on the Hospital Anxiety and Depression scale (HADS).

Shame and guilt were frequently experienced by participants. Shame has been defined as an evaluation of the self, whereas guilt is more an evaluation of a behaviour (Roberts & Goldenberg 2007). In a quantitative study with university students, Waller, Marlow & Wardle (2007) found that knowledge that HPV was sexually transmitted was associated with higher levels of shame. This was also noted by McCaffery et al. (2006) in their qualitative study.

For those with chronic conditions such as herpes, research has linked the psychological impact of the disease with recurrences in / increases in outbreaks (Silver et al. 1986), therefore those individuals with sustained emotional reactions may be more affected by the physical symptoms of the disease.

Ways of coping

Ways of coping have been shown to impact on adjustment to genital herpes – poorer psychological adjustment was linked with more negative thoughts, wishful thinking and self-blame in a study of 152 people by Manne and Sandler (1984). 105 women with herpes participated in an online survey in a study by Barnack- Tavlaris et. al (2011). They found that acceptance coping was associated with better quality of life, whereas denial coping predicted poorer quality of life.

According to psychodynamic theory (e.g. Malan, 1995), the coping strategy of denial could be viewed as a defence mechanism, which would be used to protect the self from painful feelings associated with having an STD, such as shame.

Some studies have identified that the psychosocial impact of an STD lessens over time (Kwan et al. 2011, Rosenthal et al. 2006). This is partly supported by the findings of this review, as some participants appeared to come to terms with and find ways of managing their STD. However, others still seemed to be struggling, despite being diagnosed several years ago (e.g. Mortensen & Larsen 2010b). This may be related to several factors including social support. Gao et al. (2010) found that social support was an important determinant of depression and reduced the impact of an STD in young women in Canada. Therefore those participants in this review who chose to cope with their STD through avoidance may be more prone to suffering adverse psychological consequences, as they are not receiving this social support.

Self identity

Promiscuity was mentioned by several of the papers in this review. Historically, and in the present day, views on sexual activity for men and women differ. Lichtenstien, Hook & Sharma (2005) explored views on STD's and barriers to treatment through a telephone survey of 250 household residents in Alabama, USA. Respondents reported that women would be more stigmatized than men if they were infected with an STD, even though men should be held responsible for spreading the infections. It was a common view that it is "a woman's responsibility to keep herself pure". Conversely, it was found that "sexual adventuring was considered acceptable or even inevitable for young men". Evidence for these differing views was found in the current review, as being viewed as promiscuous was a fear reported mainly by women.

The impact of an STD on desirability/sexual self was mentioned by several participants. In a quantitative study exploring sexual self concept, ("the feelings a person has about themselves as a sexual being"), Newton & McCabe (2008b) found that individuals with HPV and Herpes had significantly higher levels of sexual anxiety, sexual monitoring (awareness of the impression one's

sexuality makes on others), sexual depression (feelings of sadness/depression relating to one's sex life) and fear of sex, and significantly lower levels of sexual satisfaction, and sexual optimism (that one's sex life will be positive and rewarding in the future) than those without an STD. However, disclosure to a partner appeared to reduce the impact on some of these variables. In a prospective study in the USA involving 1807 people undergoing chlamydia screening, Gottlieb et al. (2011) also found people testing positive had a significant increase in anxiety about aspects of their sex life. This is consistent with the findings of the present review which suggest for some people, their view of themselves as a sexual person, and their levels of intimacy with their partners were significantly affected by their STD.

Issues surrounding disclosure

Many of the participants in the studies included in this review reported feeling fearful of disclosing their STD. Bickford, Barton & Mandalia (2007) conducted a mixed methods questionnaire study of 70 participants with genital herpes, and found that anticipating disclosure of an STD to a partner was associated with high levels of anxiety. However, in a questionnaire study with 54 participants, Scrivener, Green, Hetherington & Brook (2008) found that people who had disclosed that they had ano-genital warts were significantly less anxious than those who chose not to. People who disclosed also rated their relationships as closer and longer lasting. Although it may have provoked high anxiety, disclosing their STD may have had benefits for the participants. Similarly to the present review, Swanson and Chenitz (1993) also found that people with herpes had different strategies around disclosure: revealing, accommodating and avoiding.

A mixed methods study by Green et al. (2003) found that for individuals with genital herpes, the "characteristics of partners were important in determining whether disclosure occurred" – people were more likely to disclose to regular partners than casual partners, and

indicators that the relationship was becoming more serious, such as moving in with a partner, appeared to be a trigger for disclosure. The majority of participants felt they did not need to disclose to casual partners. Others avoided disclosure as they were worried about the reaction of their partner.

Stigma

One of the main reasons why the psychosocial impact of STD's is so considerable is due to the high levels of stigma surrounding them. In a review of the literature around STD's and stigma, Hood and Friedman (2011) concluded that "the psychosocial impact of stigma on STI infected individuals often causes equal or greater suffering than disease itself." Stigma may link with several of the themes and subthemes identified in this synthesis, particularly ways of coping (*denial, avoidance*) emotional reactions (*internalising -self blame/shame*) self identity, (*promiscuity, contamination*) and issues around disclosure. Stigma has been described as an attribute that has a discrediting effect, whereby an individual is "reduced ...from a whole and usual person to a tainted, discounted one" (Goffman 1963).

Many of the participants described feeling tainted, contaminated or dirty when they discovered they had an STD. They also felt ashamed, and shame can be viewed as an internalised version of stigma (Corrigan & Penn, 1999). Roberts and Goldenberg (2007) note that "shame stemming specifically from concerns about the body is related to the fear of eliciting disgust and social rejection from others". Labels were ascribed to the 'type of person' that would catch as STD, particularly women, and they feared that they would be labelled as promiscuous. People were fearful of disclosing as they thought they may be judged or rejected, and felt that their STD would impact upon their relationships.

Jones et al. (1984) expanded on Goffman's work and identified six factors underlying stigmatising conditions — concealability, (how much the condition can be hidden) course (how the condition changes over time), disruptiveness/strain (how much it disrupts/strains relationships), aesthetic qualities (how much the condition affects a person's appearance), origin (whether the person is born with the condition or it is acquired), and peril (how much danger the condition poses to others). Concealability, origin and peril have been identified as being particularly relevant to STDs (Newton & McCabe 2005, Breitkopf 2004). As an STD is an acquired infection, this can lead to individuals being held responsible for their condition, and therefore treated more negatively than someone who is not perceived to be responsible for their condition. As STD's are transmissible, there is also an element of peril to others. They are generally concealable diseases and not visible, which enables people to carry on as normal and "pass for healthy". However, this can create difficulties around disclosure, and people may choose to carry the burden of their infection alone, without telling others. This can have an impact on their psychological wellbeing, and lead to avoidance and withdrawal from others, as was seen for some participants in this review who chose not to disclose and isolated themselves because of their STD. Others chose to 'pass as healthy' and continue being sexually active, possibly putting their partners at risk of infection.

Quinn and Chaudoir (2009) found evidence that for concealable stigmas, higher levels of anticipated stigma were related to increased psychological distress (depression and anxiety). They also found that centrality (how central to a person's identity the stigma is) was related to increased psychological distress. Therefore those participants who anticipated more negative reactions if they disclosed may have been more likely to suffer negative psychological consequences. And those for whom their sexual self was an important part of their identity, may be more effected by an STD diagnosis.

Limitations

Limitations of this review include the use of papers which explored the views of participants with different types of STDs. Those which are easily treatable, such as Chlamydia, may be associated with a different psychosocial impact compared to more serious chronic infections such as herpes. Several of the papers had female only samples, which may mean the results of the synthesis are not generalizable to males. Some approached the topic from a feminist stance (East et al. 2010, Nack 2000), which may have influenced their interpretation of participant responses and development of themes. Several of the papers also recruited participants from clinic populations, therefore the results may not reflect the experiences of people who choose not to attend for testing and/or treatment.

Due to difficulties in searching for papers using qualitative methods (Flemming & Briggs 2007), all the relevant papers may not have been identified. However, it may not be necessary for a meta-synthesis to include all the papers on a given topic (Ring et al. 2011). Additionally, the screening of papers was conducted with a particular research question in mind – therefore it is possible that other important themes may have been missed.

As a female researcher who has concurrently been conducting a research project on stigma and STDs, my own ideas and experiences have likely influenced my interpretation and development of the themes explored in this review. This issue could have been addressed by having an additional researcher review the papers and develop their own themes, which could then be compared and discussed. It is hoped that the inclusion of quotations from the original papers (Table 3) will assist readers in drawing conclusions about the credibility of the synthesis.

Clinical Implications

The results suggest that being diagnosed with an STD can have a considerable psychosocial impact, and people may need psychological support in dealing with this. This includes support in

dealing with the stresses it can place on relationships; in dealing with the damage it can cause to self-image and self-worth; in dealing with distressing emotional reactions; and in promoting more constructive coping strategies.

Several of the studies highlighted the need for education about prevalence before an STD diagnosis to try and de-stigmatise the infection and reduce the adverse psychological impact on the individual (Duncan et al. 2001, Perrin et al. 2006). This may be beneficial as some infections, such as HPV are extremely widespread, with many sexually active people infected.

Some people may require support such as counselling following their diagnosis to assist them in informing partners, which may in turn encourage them to get tested, and also reduce rates of transmission. A process of partner notification is already used by many STD clinics to inform a person's previous partners that they may have been exposed to an STD, however people with a chronic STD may also require assistance, support and advice in disclosing to future partners.

Future research

Future research could examine further the pre-morbid personal characteristics that may affect a person's reaction to an STD diagnosis, as some people appear to be more resilient whereas others suffer long lasting consequences.

More prospective studies examining the longer term impact of living with a chronic STD would also be useful in providing information about how people cope over time. Separating out the psychosocial impact of curable infections such as chlamydia and gonorrhoea and comparing them with more chronic STD's could also be a focus for future syntheses.

Conclusion

It is clear that an STD can have a significant impact on many areas of a person's life – but this is likely to be dependent upon their personal characteristics, style of coping and relationship quality. The psychosocial consequences of an STD should be taken in to account just as much as the physical ones when people are screened and treated. Education and support from healthcare professionals to help people to cope with the emotional impact of a diagnosis, relationship issues, and fears about disclosure may be an important factor in reducing rates of transmission and enabling them to adapt to living with an STD.

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**DO STD RELATED STIGMA, PERCEIVED RISK AND
SHAME INFLUENCE SEXUAL SAFETY IN
ADOLESCENTS?**

Empirical Paper

Abstract

Background: It has been claimed that stigmatising attitudes towards sexually transmitted diseases can lead to reduced sexual safety, via a reduction in perceived vulnerability. Research in the context of HIV has supported this claim, however other evidence is inconsistent. The present study aimed to find out whether a similar relationship operates with STD's more common in a western context, such as Chlamydia. This study also aimed to explore the influence of perceived severity and negative emotional reactions such as shame upon sexual behaviour.

Method: 201 students aged 16-19 completed a questionnaire assessing stigmatising attitudes towards STDs, perceived risk, past sexual behaviour, intended future safe sex, perceived severity and anticipated emotional reactions.

Results: As was hypothesised, there was a significant negative correlation between stigma and perceived risk, suggesting as levels of stigma increase, perceived vulnerability to STD's decreases. However, contrary to predictions, increased perceived risk was related to less safe future intentions. Also contrary to the hypothesis, there was a significant positive correlation between stigma and intended safe sex. Further analysis suggested the relationships were being influenced by several demographic factors. Higher scores on perceived severity and emotional reactions were related to safer future intentions.

Conclusions: The results suggest that STD's may not have the same motivating influence upon behaviour as more serious infections such of HIV. However, perceived severity and emotions may have an important influence on future safe sex intentions.

Keywords: STD, Stigma, Shame, Risk, Behaviour

Introduction

Despite sex education now being commonplace in UK schools and recent campaigns aimed at reducing transmission of sexually transmitted diseases (STD's)(e.g. Sex: worth talking about, NHS), rates of infection are still high and continue to rise. In 2012, there were almost half a million new diagnoses of STD's 16-25 year olds and men who have sex with men are the most at risk groups (Health Protection Agency 2013).

Chlamydia is the most commonly diagnosed STD in the UK, accounting for 46% of new diagnoses in 2012, followed by Genital Warts (16%), Genital Herpes (7%) and Gonorrhoea (6%)(HPA 2013). Although most STD's are easily treated if detected early, some, such as Chlamydia, can have long term consequences on fertility if left untreated, particularly for women (Paavonen & Eggert-Kruse 1999). Rates of diagnosis in the under 25 age group have risen considerably over the last 10 years (HPA 2013). It is possible that this increase reflects the effectiveness of publicity campaigns, as more people are accessing screening. However, as Chlamydia is often a symptomless infection, particularly in women, it is likely rates of infection are much higher. These statistics suggest that young people in the UK are taking more risks with their sexual health and not protecting themselves adequately by using condoms, which are the most effective form of contraception against STD's and HIV.

Stigma

There are many factors involved in why people put their health at risk by engaging in unsafe sexual behaviours. One factor that has attracted attention is stigmatizing attitudes towards STDs. Stigma can be defined as "a mark of disgrace associated with a particular circumstance, quality or person" (Oxford Dictionary). Goffman (1963) noted that stigmatized individuals possess a "discrediting attribute" and are viewed not as a "whole and usual person" but a "tainted,

discounted one.” Stigmatizing attitudes towards STDs/HIV can include ideas that the person is to blame for catching the disease, has gotten what they deserve, or that they are being punished by god because they have sinned. Common reactions to STDs can include fear, disgust, anger and pity (Nyblade 2006).

In the context of HIV and AIDS, the harmful effects of stigma have been well documented. It underlies poor treatment received by those with the disease – including social exclusion, hostility, loss of livelihood and property, inadequate health and social care (e.g. Campbell, Nair, Maimane, & Nicholson 2007, UN Aids Report, 2007). Stigma can also lead to reluctance to get tested, to seek treatment and to reveal one’s HIV-status to one’s sexual partners, all of which, in turn, help the disease to spread (UN Aids Report, 2007). Although less well researched, stigma about STDs other than HIV/AIDS has also been found to have similar effects in relation to a reluctance to get tested, to seek treatment, and to disclose status to sexual partners. Cunningham, Kerrigan, Jennings and Ellen (2009) looked at the relationship between STD related stigma and STD screening in the US, and found that for both males and females, participants who anticipated higher levels of stigmatising attitudes if they were to be diagnosed with an STD were less likely to have accessed screening. Similarly, Fortenberry et. al (2002) found that people who had not been tested for Gonorrhoea or HIV in the last year had higher levels of stigmatising attitudes than those who had been tested. In a study of American college students, Barth, Cook, Downs, Switzer & Fischhoff (2002) found that fear of what others would think, and embarrassment were more significant barriers to seeking an STD test than fear of testing positive. Bickford et al (2007) found that anticipating disclosure of an STD to a partner was associated with high levels of anxiety.

It has also been suggested that stigma may have a negative impact on people’s motivation to engage in safe sexual practices. The basic idea is that having stigmatizing attitudes makes people feel that they themselves are unlikely to contract the disease, and, in consequence, are less inclined to practise safe sex. This idea has appeared frequently in the HIV/AIDS literature. Its

origins appear to be in some earlier claims about the role of blame and stereotyping in affecting the motivation to practise safe sex. Working within social representation theory, Joffe (1999) argued that those in the mainstream of society view people with HIV as “the out group” and perceive that as part of the “in group” they are much less likely to be infected, and so in turn do not perceive themselves as needing to be cautious in their sexual practices. Joffe proposed that when initially faced with a risk or a crisis, such as an epidemic, people respond “not me, not my group, others are to blame.” By making the threat external, people gain a sense of feeling less vulnerable. In addition, the out-group are seen as being responsible for their misfortune and worthy of blame. She suggests that social representations of “others” as being “more deserving targets of danger” help control the anxiety aroused by these threats.

In their ‘AIDS risk reduction model’ Catania, Coates & Kegeles (1990) proposed a model of harm reduction by which individuals attempt to change their “sexual behaviours related to HIV transmission”. In Stage 1 (termed labelling) it is suggested that for changes to be made to risky sexual behaviour, there must be an element of perceived risk. The risk is a motivator for the person to act, and when the person ascertains that the threat can be attributed to sexual activity, they can generate plans to try and reduce the threat. Catania, Coates, and Kegeles (1994) suggested that if at this stage the person holds stereotyped or stigmatizing views about the type of people who contract HIV (e.g. ‘only gay men get HIV’) they may not perceive themselves to be at risk, and therefore will be more likely to continue engaging in the risky behaviour. Stage 2 (commitment) supposes that people must commit to using protection if they are to be successful in “making condoms a consistent part of their sexual encounters”. At Stage 3 (enactment) people who believe themselves to be at risk for HIV and have a commitment to practising safer sex may come into contact with partners who do not share these views and values, therefore they must feel confident to assert their new standards in order for the behaviour change to be successful.

Similar claims about the impact of stigma on motivation to practise safe sex have been made in relation to STDs other than HIV/AIDs within western societies. Several qualitative studies have noted that those diagnosed with an STD often react with shock and surprise, or believe they are not the “type” of person who catches an STD (Darroch, Cassell & Myers 2003, Duncan, Hart, Scoular & Bigrigg 2001) and some authors have suggested that those diagnosed previously perceived themselves as invulnerable to STD’s (East, Jackson, Peters & Obrien 2010, Mulholland & Van Wersch 2007). In their review of the literature around stigma and STD’s, Hood & Friedman (2011) suggest that this is evidence of stigma “shaping perceptions of risk, which may directly influence risk reduction behaviours”. However, these studies do not provide evidence that not expecting to catch the disease, in turn, leads to unsafe sexual practices.

Despite the popularity of these claims, evidence to support them is very limited. Riley and Baah-Odoom (2010) reviewed the evidence relating to HIV/AIDs. They observed that findings are inconsistent, and sometimes circumstantial. Some studies have found evidence of blame/ stigma, low perceived vulnerability and risky sexual behaviour occurring together , however Riley and Baah-Odoom (2010) note that this is “ far from conclusive evidence blame leads to reduced perceptions of vulnerability, which in turn leads to unsafe sexual behaviour”. Evidence relating to STDs other than HIV/AIDs is even scarcer and there appear to be no direct tests.

Only three studies appear to have directly tested the claim that stigmatizing attitudes lead to reduced safety in sexual behaviour through the mediation of reduced perceived vulnerability to the disease. Two of these have been conducted in the context of HIV/AIDs. Burkholder, Harlow & Washkwich (1999) carried out a cross sectional questionnaire study of 481 college students in the USA. They investigated whether those who stigmatised people with HIV /AIDs were more likely to have engaged in risky sexual behaviour, and whether this relationship was mediated by perceived risk. They found that stigma was associated with reduced sexual safety, but this was not mediated

by reduced perceived risk. In fact, contrary to expectation, reduced sexual safety was associated with higher levels of perceived risk.

Riley and Baah-Odoom (2010) conducted a study with a sample of 460 young people (at school and university) in Ghana, where HIV affects a significant proportion of the population. A questionnaire was developed and included items to measure stigmatising attitudes, beliefs about the origins of HIV, perceived vulnerability to HIV, past sexual behaviour and intended sexual behaviour. One of the main findings was that there was a significant negative relationship between stigmatising attitudes towards HIV and both past and intended sexual behaviour; in other words people with higher levels of stigma were more likely to have engaged in risky sexual behaviour and to intend to engage in risky sexual behaviour in the future. For intended sexual behaviour this was mediated, as hypothesized, by a reduced perception of vulnerability. For actual sexual behaviour, they found the relationship with stigma was *not* mediated by a reduced perception of vulnerability to HIV. In discussing their study in relation that of Burkholder et al. (1999), Riley and Baah-Odoom (2010) suggested that the relationship between perceived risk and sexual behaviour may depend on whether intended or actual sexual behaviour is assessed, as neither their study nor Burkholder et. al's (1999) study found the expected relationship between perceived threat and actual sexual behaviour. Riley and Baah-Odoom suggested that having engaged in risky behaviour in the past may well influence the person's appraisal of their risk status, and so they may correctly view themselves as being at higher risk. They suggested that the relationship between perceived risk and intended safe sex would tend towards a positive correlation, as it may be influenced by a person's wish to reduce risky behaviour in future, whereas perceived risk and past sexual behaviour would tend towards a negative correlation (as it may be influenced by people using their past behaviour to make judgements about their vulnerability.) They supported this claim by noting that studies that asked about past sexual behaviour and perceived risk (Burkholder et al 1999, Volk & Koopman 2001) had failed to find a positive correlation, whereas those that asked about intended behaviour did (Catania et al 1994).

The third study that has directly tested the hypothesis is an unpublished study by Hatton (2012). With a sample of 358 undergraduate university students, Hatton aimed to explore whether the findings of Riley and Bah-Odoom were generalizable to a UK sample, and focussed on STDs more common in a western context. A questionnaire based on that used by Riley & Bah-Odoom (2010) asked about stigma, perceived risk and actual and intended sexual behaviour. Hatton found that higher levels of stigma were associated with less perceived risk; and less perceived risk was associated with higher actual safe sex and higher intended safe sex. Hatton also found that higher levels of stigma were associated with safer actual sexual behaviour but had no significant association with intended sexual behaviour. Contrary to the findings of Burkholder et al (1999) and Riley and Baah-Odoom (2010), there was no association between increased stigma and reduced sexual safety; consistent with the Riley and Baah-Odoom study, higher stigma was associated with reduced perceived risk; and, contrary to the Riley and Baah-Odoom study but consistent with Burkholder et al. (1999), raised perceived risk was associated with reduced safety in intended and actual sexual behaviour.

Another potentially relevant difference across the three studies concerns the motivating strength of the perceived risk. Perceived risk is a concept that derives from the Health Belief Model (Janz & Becker, 1984). 'Perceived threat' is composed of two elements - perceived risk (the extent to which someone perceives themselves to be at risk of a disorder) and perceived severity (their perception of how severe the consequences will be). Together with perceptions of the costs and benefits of the various courses of action available, and the provision of cues to action, they influence the likelihood of the person adopting a healthier pattern of behaviour. It may be that perceived risk has not had an impact on sexual behaviour in the Burkholder et al. (1999) and Hatton (2012) studies, but has in the Riley and Baah-Odoom (2010) study because of differences in perceived risk and these other elements of the HBM in the socio-cultural contexts in which the

studies were conducted. Thus, adolescents in Ghana are at much higher risk of HIV/AIDS than those in the U.S.A. It may be that the perceived risk needs to be at a certain threshold before it motivates behaviour, and that this threshold was reached for few of the participants in the Burkholder et al. (1999) study. Adolescents in Ghana are also much more likely to be exposed to public health campaigns about HIV/AIDS and the need to practise safe sex (i.e. more exposure to cues to action). Differences in perceived severity may also be relevant. The perceived severity of HIV/AIDS is likely to be far greater than the perceived severity of STDs other than HIV/AIDS, and this may explain why the expected relationship between perceived risk and behaviour was not observed in the Hatton (2012) study. Unless the consequences of the disease are considered severe, perceptions of being at risk of the disease may be less likely to motivate behavioural change.

The present study provided another test of the hypothesis that higher stigma is related to unsafe sex through the mediation of a reduced perception of risk. It was conducted with adolescents still at school, and focused on the stigma and perceived risk in relation to STDs other than HIV/AIDS. An adolescent sample was chosen as they are less likely to be sexually experienced and therefore may be more likely to have stigmatising attitudes towards those with an STD. Both intended and actual sexual behaviour were assessed to investigate whether there is a difference in this respect. Also, a measure of perceived severity was included. It was hypothesized that those who perceived the consequences of contracting an STD to be more severe would be more likely to show the hypothesized relationship between perceived risk and behaviour.

Shame

Another possible explanation of the inconsistencies in the research about stigma and safe sexual behaviour may relate to the concept of shame. 'Shame' has been defined as negative attitudes towards oneself as a result of internalizing the stigmatizing attitudes of society (Corrigan & Penn, 1999 – cited by Cunningham et al. (2009)), though a more general definition would be in

terms of negative evaluations of the self as a result of falling short of the standards that one sets oneself (whether these are derived from the internalization of social stigma or from other sources). Shame may have a complex relationship with stigma and safe sexual behaviour. On the one hand, one would expect stigma and shame to be positively correlated. If shame is, in part, the internalization of social stigma, then it seems likely that those who hold stigmatizing attitudes are also more vulnerable to shame. If people are vulnerable to shame about STDs, then it seems likely that they may think that others who have caught an STD should also have these reactions, and thinking people who have a disease ought to feel ashamed appears to be one of the bases for stigmatizing attitudes to develop. On the other hand, shame may motivate the person to engage in safe sexual behaviour. In a review about the need to extend the theory of planned behaviour, Connor and Armitage (1998) reviewed evidence about the importance of anticipated negative emotional reactions in influencing health-related behaviour. Evidence suggests that the anticipation of negative emotional reactions, such as shame and embarrassment, if one follows a particular course of behaviour, may motivate the person to avoid that course of action. With specific reference to practising safe sex, Richard, de Vries, and van der Pligt (1998) found that anticipated regret (about pregnancy, STDs) was a significant predictor of intended future contraceptive use. Similarly, Sales et al (2007) found that STD-related shame was significantly correlated with the use of condoms during intercourse in the last 14 days.

If anticipated shame motivates the person to practise safe sex, but anticipated shame is positively correlated with stigma, then these relationships will tend to lead to a positive correlation between stigma and safe sex. This will dilute any tendency towards a negative correlation between the two due to their relationship with perceived risk (i.e. the tendency for stigma to lower perceived risk, which, in turn, increases the likelihood of engaging in unsafe sex). To investigate this possibility, the present study also included a measure of anticipated negative emotional reactions to being infected with an STD. It was hypothesized that the predicted relationship between stigma, perceived risk and safe sexual practices would be more evident when the effects

of anticipated negative emotional reactions on stigma and sexual behaviour were controlled. In line with the evidence reviewed in the previous paragraph, it was also hypothesized that greater anticipation of negative responses would be associated with safer sexual practices.

Method

This study employed a cross sectional questionnaire design. The study was given full ethical approval by the University of Birmingham ethics committee.

Participants

This 16-19 age group was chosen as they are amongst the most at risk groups for contracting an STD. It was anticipated that approaching this age group might represent the best opportunity of finding relationships between the variables.

Power calculations suggested that a sample of 200 participants was required to perform a mediation analysis. The sample consisted of 201 young people who were studying in sixth form at the time the research was carried out. Students were recruited from schools with sixth forms in the West Midlands area. Three high schools took part in the research. Students were required to be between the ages of 16 and 19, and English speaking to take part

The majority of participants were aged 16 (48.3%) and 17 (44.8%). 59% of the sample were female. Just under three quarters identified their ethnicity as being white British (73%) followed by Indian (9%) and mixed white/black Caribbean (3.5%). The most common religious groups were Christian (49%) , followed by having no religion (35%) and Sikh (5.5%).

Nearly all of the participants defined their sexuality as being heterosexual (97%). 25% stated they were currently in a relationship, while only 7% stated they had been tested for STD's in the past. 36% of the sample stated they had sexual intercourse. However, several participants (n=16) did not answer this question, or only answered part of the section, likely due to its sensitive nature. 11% of the sample stated that they were waiting until they got married to have sex.

Measures

Measures of stigma, perceived risk and sexual behaviour were developed and refined from existing scales used by Riley and Baah-Odoom (2010). Measures of emotional reactions and perceived severity were developed specifically for this study. The final questionnaire comprised of six sub scales, intended to measure perceived vulnerability to STDs, stigmatising attitudes, actual (past) sexual behaviour, intended future sexual behaviour, perceived severity of STD's and anticipated negative emotional reactions (e.g. guilt, shame, embarrassment). Demographic information including age, gender, ethnicity, religion and sexuality was also collected. Participants were also asked if they were in a relationship, and if they had ever been tested for an STD.

Scales were initially piloted with undergraduate psychology students to ascertain whether they possessed good internal consistency/reliability. The sub scales generally displayed good internal consistency, with the exception of the perceived severity scale, which had a slightly lower alpha and was developed specifically for this study. Table 1 displays the number of items and Cronbach's alpha for each component.

Section/Variable	No. of items	Cronbach's Alpha
Perceived risk	7	.714
Stigma	16	.892
Actual safe sex	5	.772
Intended safe sex	10	.799
Perceived severity	5	.655
Anticipated negative emotional reactions	17	.950

Table 1 – Number of items and Cronbach's alpha for each construct

The final questionnaire consisted of 62 items. Most questions required the participant to rate their response on a likert scale. For the actual safe sex scale participants were asked if they had ever had sexual intercourse, before going on to complete the section if they answered yes. For intended safe sex, participants were asked if they intended to avoid having sex until they are married, if they answered no they completed the rest of the section. Table 2 displays sample items

for each section. The actual safe sex scale initially consisted of seven items, however two items were removed (Section 3, questions 7&8, see appendix 6) as they failed to correlate with the other items. For each construct, higher scores represented stronger endorsement of the construct, i.e. higher scores on the stigma scale represented higher levels of stigma, higher scores on the perceived risk scale represented more perceived risk, and higher scores on the intended safe sex scale represented safer future intentions. . The scales for perceived risk, actual safe sex and intended safe sex contained some reversed items and so scores for these items were adjusted before the data was analysed. For intended safe sex, participants who said they were intending to remain celibate until marriage were given the highest possible score, in order for them to be included in the analysis.

Section/variable	Sample items
Perceived risk	“compared to others my age, I am less at risk of catching an STD” “the risks of catching an STD are exaggerated.”
Stigma	“people who catch STD’s have only themselves to blame.”
Actual safe sex	“in the past, how often have you had sex with someone you didn’t know very well or had only just met?”
Intended safe sex	“in the future, would you use a condom if you did have sex with someone you don’t know very well or have only just met?”
Perceived severity	“it’s really important to me to protect myself against catching an STD”
ANERs	“how much would you feel the following if you caught an STD:” ashamed, dirty, disgusted etc.

Table 2 – Sample items for each section of the questionnaire

Procedure

Each individual school who participated in the research viewed the questionnaire before agreeing to take part. When a school agreed to participate in the study, teachers were provided with a leaflet to hand out to students who will be eligible (those in sixth form classes and aged 16 or over) providing a brief summary of the research and inviting them to a data collection session. Those students who were interested in taking part attended a data collection session where they were provided with the information sheet, consent form and questionnaire. If they agreed to take part following reading the information sheet, they were asked to complete the consent form which was then detached from the questionnaire and collected separately. Participants were informed that any personal identifying information would be kept separately and securely away from their responses. Participants were advised they could withdraw from the study at any time during the completion of the questionnaire, and up to one week afterwards, and their answers would be destroyed. Participants completed the questionnaire in a classroom setting. It took approximately 15 minutes to complete. Due to the sensitive nature of the questionnaire, information on avenues for support including sexual health charities was provided to the students via the information sheet.

Results

Section	Mean	SD	Maximum observed score	Minimum observed score	Range of possible scores
Perceived risk	20.98	5.023	35	8	7 - 35
Perceived severity	22.	2.99	25	13	5-25
Anticipated negative emotional reactions	63.49	15.21	85	17	17-85
Stigma	38.33	11.39	72	18	16- 80
Intended Safe Sex	27.29	7.55	40	10	10 - 40
Actual Safe Sex	12.76	2.38	15	7	5 - 15

Table 3 – Descriptive statistics for each variable

Where there were missing scores, the participant's scores for the other questions on that variable were totalled and the average of these scores replaced the missing score. If there was more than 25% of a section missing, the participant's responses for that variable were not included in the analysis.

Table 2 displays the means, standard deviations, minimum and maximum scores for each of the constructs.

Data were inspected for their suitability for parametric analysis following the guidelines suggested by Tabachnik and Fidell (2000). Distributions for which the division of the skewness or kurtosis statistic by their respective standard error resulted in a value greater than 2.58 were considered to depart significantly from the normal distribution. By this criterion, stigma was positively skewed (i.e. a tendency towards low scores); and perceived severity and ANERs were negatively skewed (i.e. a tendency towards high scores, particularly on perceived severity). For this reason, the data were analysed using Spearman's rho instead of Pearson's correlation. Table 3 displays the correlations amongst all the variables.

Hypotheses

Mediation hypothesis (that higher stigma will be associated with decreased safety in intended sexual behaviour through the mediation of decreased perceived vulnerability): Consistent with this

hypothesis, there was a significant negative correlation between stigma and perceived risk , suggesting as levels of stigma increase, perceived vulnerability to STD’s decreases. However, the expected relationship between perceived vulnerability and future intentions was not found. In fact, contrary to predictions, there was a significant negative correlation between perceived risk and future intended sexual behaviour (*increased* perceived risk was related to less safe future intentions). Also contrary to the hypothesis, there was a significant positive correlation between stigma and intended safe sex (i.e. those who stigmatized more were more likely to intend to practise safe sex). Because the anticipated correlations did not occur, the planned mediation analysis on the relationship amongst the three variables was not carried out. There was no evidence, either, to support the hypothesis in relation to actual safe sex. Contrary to the hypothesis, actual safe sex was also positively correlated with stigma, and negatively correlated with perceived risk (though these correlations were not significant.)

	Perceived risk	Perceived severity	ANER’s	Stigma	Intended safe sex	Actual safe sex
Perceived severity	-.105 P=.141					
ANER’s	-.170 P= .016*	.298 P< .001**				
Stigma	-.257 p< .001**	-.005 P=.947	.378 P< .001			
Intended safe sex	-.176 sig p=.012*	.478 p< .001**	.261 P<.001**	.151 p=.033*		
Actual safe sex	-.191 P=.167	.169 P=.222	-.040 p=.774	.059 p=.672	.359 p= .008*	

Table 4 – Non parametric correlations between the variables

ANERS and Perceived Severity

As hypothesized, perceived severity and ANERs were both positively correlated with intended safe sex and ANERs with stigma (Table 3). However, perceived severity and ANERs were not significantly correlated with actual safe sex.

It was hypothesized that the predicted relationships between stigma, perceived risk and intended safe sex would be more apparent when the effects of perceived severity and ANERs were controlled. To investigate this, a multiple regression was carried out. The validity of this is reduced by the non-normality of the distributions of some of the variables, and so the results need to be treated with some caution. Considering the relationship between stigma and intended safe sex, the part correlation between the two when perceived severity and ANERs were entered into the regression was less than the zero order correlation between the two (.185 to .139). The part correlation between perceived risk and intended safe sex was also lower than the zero order correlation when controlling for perceived severity and ANERS (-.202 to -.147). However, the direction of the part correlations was the same as the zero order correlations, and the part correlations were statistically significant in both cases. In other words, even when controlling for perceived severity and ANERs, the relationships between stigma, perceived severity and intended safe sex were contrary to the hypothesis.

Demographic analyses

Independent samples Mann Whitney U tests indicated that females were more likely to score higher on anticipated negative emotional reactions ($p < .001$) and perceived severity ($p = .001$) than males. They were also more likely to have safer future intentions ($p < .001$). However, there was not a significant difference for stigma scores between males and females, as has been found in previous research in which males have scored more highly on stigma (Riley & Baah-Odoom 2010, Cunningham et al., 2009). Table 4 displays the mean scores for each variable between demographic groups.

Due to the small percentage of other ethnic groups (27%) in the sample, these ethnicities were analysed collectively and compared with the majority (white British participants). Other ethnic groups included Indian, Pakistani, and Black Caribbean. Collectively, other ethnic groups

were significantly different on all 6 main variables. (Mann Whitney U test) They were more likely to score higher on stigma ($p < .001$) and ANERs ($p < .001$) compared to white British participants.

Other ethnic groups were also more likely to have safer future intentions than white British participants. ($p = .005$). However, white British participants perceived themselves to be at greater risk of STDs ($p = .004$) and scored higher on actual safe sex ($p = .003$).

A similar pattern was found for those intending to remain celibate until marriage, scoring significantly differently on 5 variables (excluding actual safe sex). They scored higher on stigma, ANERs, perceived severity and future safe sex. Those who did not intend to remain celibate scored higher on perceived risk.

<u>Variable</u>	<u>Gender</u>		<u>Ethnicity</u>		<u>Sexually active?</u>		<u>In a relationship</u>		<u>Religion</u>	
	<u>Male</u>	<u>Females</u>	<u>White british</u>	<u>Other ethnic group</u>	<u>Had sex</u>	<u>Not had sex</u>	<u>Yes</u>	<u>No</u>	<u>Christian/None</u>	<u>Other religions</u>
<u>Perceived risk</u>	20.59	21.20	21.64	19.13	22.27	19.96	21.43	20.83	21.32	18.71
<u>Perceived severity</u>	21.14	22.59	21.77	22.56	22.53	21.73	23.12	21.61	21.98	22.28
<u>ANERs</u>	57.74	67.82	61.38	68.91	63.15	64.55	65.45	62.83	62.26	71.86
<u>Stigma</u>	38.95	38.03	35.57	45.82	34.38	40.81	36.59	38.92	37.01	46.25
<u>Intended safe sex</u>	23.79	29.71	26.29	30.06	25.48	28.52	28.73	26.80	26.72	30.32
<u>Actual safe sex</u>	12.27	13.09	13.26	10.82	12.76	<u>n/a</u>	13.43	12.04	12.79	9.00

Table 5 – Mean scores for demographic groups for each variable

Religions other than Christianity or no religion scored significantly higher on ANERs ($p < .001$), stigma ($p < .001$) and intended safe sex ($p = .044$). Participants who were Christian or had no religion perceived themselves to be at increased risk of STD's ($p = .017$).

Separate analyses were also conducted for those who said they had not had sexual intercourse. Kruskal Wallis tests showed that those that reported they had not had sex were more

likely to score higher on stigma ($p < .003$), and have safer future intentions ($p = .05$) than those who had engaged in sexual intercourse. Participants who had had sex scored higher on perceived risk, correctly identifying themselves as being at greater risk of contracting STD's ($p = .003$). Those in a relationship (Mann Whitney u test) scored higher on perceived severity, ($p < .001$) intended safe sex ($p = .047$) and actual safe sex ($p = .021$).

Demographic analyses were not carried out for sexuality and ever been tested for an STD due to the very small numbers in these groups.

Relationships amongst different demographic groups

The demographic groupings were also related to one another. White British participants were more likely to have had sex than other ethnic groups (chi squared = 6.20, (df=2) $p = .045$). Those in a relationship were also more likely to have had sex (chi squared = 65.74 (df=2) $p < .001$).

Those from other ethnic groups were more likely to intend to remain celibate than white British participants (chi square=24.56 (df= 2) $p < .001$) and were more likely to have a religion other than Christianity (chi square=68.20 (df=1) $p < .001$).

Correlations (demographic sub groups)

Separate correlational analyses were also carried out to determine whether demographic factors (ethnicity, religion, gender, relationship status, intention to remain celibate) had influenced the relationships between variables (see appendix 7).

Stigma and intended safe sex were positively correlated in other ethnic groups, ($r = .342$ $p = .011$) and in those who had not had sex, ($r = .270$, $p = .004$) however they were not significantly correlated in white British participants ($r = .004$, $p = .961$) or those who reported they had had sex ($r = -.062$, $p = .604$). Additionally, the correlation between perceived risk and intended safe sex was only significant in non white British participants ($r = -.297$, $p = .029$), and those who were not in a

relationship ($r = -.195$, $p = .017$). Perceived risk and stigma were negatively correlated in those who had not had sex ($r = -.191$, $p = .043$) those who were not in a relationship ($r = -.283$, $p < .001$) and non white british participants, ($r = -.316$, $p = .02$). This suggests that the correlations found in the whole sample between stigma, perceived risk and intended safe sex may largely be due to the influence of ethnicity and sexual experience. As these demographic groups are related (see above) it is difficult to determine which is exerting the most influence.

Similarly, ANER's were correlated with intended safe sex for those who had not had sex, and those who were not in a relationship, but not for white British participants or those who had had sex.

However, the positive correlation between intended safe sex and perceived severity was consistently significant across all the different demographic groups. The significant positive correlation between ANER's and stigma was also consistent across ethnic groups, religion, gender and sexual experience.

There were also some gender differences. Females showed a similar pattern of correlations to that found in the whole sample. However, males did not show a significant relationship between stigma and perceived risk ($r = -.205$, $p = .064$) whereas females showed a stronger negative correlation between these two variables ($r = .277$, $p = .002$) Males also displayed weaker correlations between ANER's and perceived severity ($r = .108$, $p = .338$) compared to females ($r = .345$, $p < .001$).

Discussion

Mediation hypothesis

A popular claim is that stigma about sexually transmitted diseases results in complacency about one's risk status and this, in turn, leads to reduced belief in the need to practise safe sex (Hood & Friedman, 2011). Evidence about this is inconsistent. Although Riley and Baah-Odoom (2010) found evidence to support it in relation to AIDS stigma in Ghana, it was not supported by the study of Burkholder et al. (1999) in relation to AIDS stigma in the USA or Hatton (2012) in relation to STD stigma in the UK. The results of the current study were consistent with those of Hatton (2012). As predicted, higher levels of stigma were related to a reduction in perceived risk, however, contrary to expectation, higher perceived risk was related to less safe future intentions and higher levels of stigma were related to safer future intentions. Therefore the hypothesised relationship (where stigma is related to less safe future intentions mediated by reduced perceived risk) found by Riley and Baah- Odoom (2010) was not found in this study.

It was argued in the Introduction that socio-cultural factors may be responsible for the inconsistency in these findings. The fear of adolescents in Ghana of contracting HIV/AIDS may be much greater than the fear of those in the USA, and the fear of those in the UK of catching STDs other than HIV/AIDS. To address this possibility, the current study included a measure of perceived severity on the basis of the idea that support for the mediation hypothesis may be more evident amongst those who perceived the consequences of contracting an STD as severe. It was also suggested in the Introduction that anticipated negative emotional reactions to STDs may weaken the relationship between stigma and safe sex proposed by the mediation hypothesis because they may be related to both more stigma and safer sex. When ANERs and perceived severity were controlled in the regression analysis, the size of the positive correlations between safe sex and stigma, and safe sex and perceived vulnerability, were reduced but remained positive.

The study thus provided no support for the mediation hypothesis. It may be that the perception of being at risk of STDs in the UK is just not a sufficiently powerful motivation to practise safe sex. The risk may not be sufficient to motivate them to change their behaviour or future intentions. It may be that STDs common in the UK such as Chlamydia and Gonorrhoea do not have the same 'fear factor' and power to shape behaviour as a potentially life limiting disease like HIV/AIDS. Chlamydia and Gonorrhoea can be easily cured with antibiotics (although there have been recent concerns about an antibiotic resistance), whereas HIV requires lifelong treatment and is associated with many other adverse health implications. HIV also has a high profile in some African countries, which is not given to STDs in this country. This may explain why Riley and Baah-Odoom (2010) found evidence to support the mediation hypothesis in relation to HIV in Ghana, but it was not supported by the studies of Burkholder et al. (1999) in the USA and Hatton (2012) and the current study in the UK.

The current study not only failed to find evidence to support the mediation hypothesis, but actually found that safe sex had significant positive correlations with both perceived vulnerability and stigma. In considering the reasons for this, it was notable from the demographic analyses that that, to a large degree, the significant correlations between perceived risk, stigma and intended safe sex found in the main sample were due to the influence of those of other ethnic backgrounds, those who had not had sex, those who intended to remain celibate until marriage, and those with religious affiliations other than Christianity. (It should be noted that it was difficult to separate out the effects of these different groups, as many participants who had not had sexual intercourse were non-white British and also noted themselves as having a religion other than Christianity, and were more likely to intend to remain celibate until marriage.) In terms of the positive correlation between safe sex and perceived vulnerability, it may be that those who have been less safe in their sexual behaviour correctly view themselves as being at higher risk and adjust their perceptions accordingly; whereas those who have not had sex also correctly viewed themselves as being at decreased risk of STDs as they are not yet sexually active.

In terms of the positive correlation between intended safe sex and stigma, the participants in these particular demographic groups (non-White, religion other than Christianity, no prior sexual intercourse, and intending to remain celibate until marriage) were both more likely to stigmatize and to intend to practise safer sex and this might explain the positive correlation. However, the relationship between the stigma and the intention to practise safe sex remains unclear. It may be that cultural attitudes that value virginity also involve stigma towards those who do not value it and adopt a more liberal attitude towards sex. Alternatively, it may be that, regardless of culture, young people who are celibate feel superior to those who practise unsafe sex and contract an STD as a result. Another possibility is that, in some circumstances, stigma might lead to an increased intention to practise safe sex (see next section).

Anticipated negative emotional reactions

It was suggested in the Introduction that anticipated negative emotional reactions to the possibility of contracting an STD may have a complex relationship with stigma and safe sexual behaviour. On the one hand, one would expect stigma and shame to be positively correlated: If shame is, in part, the internalization of social stigma (Corrigan & Penn, 1999), then it seems likely that those who hold stigmatizing attitudes are also more vulnerable to shame. If people are vulnerable to shame about STDs, then it seems likely that they may think that others who have caught an STD should also have these reactions, and thinking people who have a disease ought to feel ashamed appears to be one of the bases for stigmatizing attitudes to develop. On the other hand, shame may motivate the person to engage in safe sexual behaviour. In a review about the need to extend the theory of planned behaviour, Connor and Armitage (1998) reviewed evidence about the importance of anticipated negative emotional reactions in influencing health-related behaviour. Evidence suggests that the anticipation of negative emotional reactions, such as shame and embarrassment, if one follows a particular course of behaviour, may motivate the person to avoid that course of action.

The results of the present study supported these expectations. There were significant positive correlations between ANERS and both stigma and intended safe sex (though not actual safe sex). This confirms the importance of ANERs in understanding health-related behaviours (Connor & Armitage, 1998). Specifically with relation to sexual behaviours, the results of the present study were consistent with those of Sales et al. (2007) who found that STD-related shame was significantly correlated with the use of condoms during intercourse in the last 14 days. It also suggests a possible explanation of the finding from this study of a positive association between intended safe sex and stigma. If anticipated shame is an anticipated negative attitude towards oneself as a result of internalizing the stigmatizing attitudes of society, then stigma may lead to a greater intention to practise safe sex through the mediation of anticipated shame.

Limitations

There are limits to the generalizability of the findings. The majority of students in this study were from a white British background and studying for A-levels – therefore the results may not generalise to other cultural groups or those who have not continued in education. The setting exclusive to the UK is also a limitation. The importance of socio-cultural issues was evident from the demographic analysis. Also, the age of the participants were chosen as they are amongst the most at risk of contracting an STD and their sexual experience may be limited – this was to give the best chance of finding relationships between the variables. These results may therefore not generalise to older more experienced groups. However the findings are similar to those of Hatton (2012) who used an undergraduate sample of university students. Hatton found more relationships with actual sexual behaviour as well as intended safe sex as she used an older sample who were more sexually active than those in the present study.

The measures were developed from those previously used by Riley and Baah-Odoom (2010) and the perceived severity scale was developed specifically for this study. Though they generally displayed good internal consistency, they have not been widely validated. In particular, the results for perceived severity should be taken with some caution due to the lower alpha for that construct.

Relying on self-report, especially on a topic as sensitive as sexual behaviour, is not without its difficulties. Social desirability issues may have influenced the participants' answers. Also the proportion of the sample who reported having had sex was lower than might be expected for this age group. As the questionnaire was completed in a classroom environment, with their peers present, some participants may have felt unable to answer truthfully. This may explain the number of participants who did not complete the actual sexual behaviour section of the questionnaire. Participants completing the questionnaire alone, for example via the internet, may have yielded different responses.

Other limitations include the fact that, due to the cross sectional and correlational nature of the study, it is difficult to establish causality. In addition, other factors not measured by this study are likely to have influenced the relationships between the variables.

Implications and future research

Further investigation of the positive relationship between stigma and safe sex found in this study would be useful. There are several possible explanations that could be explored. Larger samples from ethnic and cultural minorities would allow a more detailed exploration of these possibilities. The possibility that those who are celibate stigmatize those who are not could be explored in a longitudinal study that tracks any changes in stigmatizing attitudes as adolescents become sexually active.

The outcome of this research could have implications for public health campaigns, though these would need to be worked out in further research. If the relationship between stigma and safe sex stems from cultural issues, or from celibacy regardless of culture, public health campaigns could address these issues with the aim of retaining the tendency towards safe sex, but tackling the stigma. If stigma leads to safe sex through the mediation of shame, then research would need to address the issue of whether it is possible to retain the motivation to practise safe sex that adolescents may derive from anticipated negative emotional reactions to contracting an STD without the stigma that appears to be associated with them.

Conclusion

Despite the limitations, this study has provided a further test of the claims of a relationship between stigma, perceived risk and sexual behaviour. The results have suggested several demographic factors may be influencing stigmatising attitudes towards STDs, and intentions for safe sex. It has also provided some interesting results related to the influence of perceived severity and emotions upon intended sexual behaviour. Further studies are required to explore these links in more detail.

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Executive summary/Public domain briefing paper

This document provides an overview of the research conducted in partial fulfilment of the requirements for the degree of Doctorate in Clinical Psychology programme at the University of Birmingham. This document summarises the literature review and a research paper both written in preparation for submission to peer-reviewed journals

Literature Review- The psychosocial impact of an STD diagnosis on the individual: a qualitative synthesis

Background

Rates of diagnoses of sexually transmitted diseases such as Chlamydia and Gonorrhoea are increasing in the UK (HPA 2013). Although STDs can have physical health consequences, research has suggested they can also have significant impact on the psychological and social functioning of an individual (Hood & Friedman 2011). Most of the research looking at the impact of STDs has been quantitative, with only a small number of qualitative papers exploring the experiences of people diagnosed with a STD. This review aimed to pull together and summarise these existing qualitative papers by conducting a meta-ethnography.

Conclusions

Several common themes in the experiences of people diagnosed with an STD were identified, including: impact on partner relationships, emotional reactions, self-identity, ways of coping and issues around disclosure (see table 1).

The themes identified through the meta-ethnography suggested that an STD diagnosis could have a significant impact on a person's view of themselves, their functioning and their relationships. The results are consistent with the findings of quantitative research, and highlight the importance of support from health care providers to help people cope with the psychological consequences and relationship difficulties that may arise as a result of an STD diagnosis.

Overarching Theme	Sub-theme
Impact on partner relationships	<ul style="list-style-type: none"> • <i>Trust/infidelity</i> • <i>Staying with partner</i> • <i>Bringing closer</i> • <i>Intimacy</i> •
Emotional reactions	<ul style="list-style-type: none"> • <i>Initial shock/disbelief</i> • <i>Fear/Anxiety</i> • <i>Internalising (shame, guilt, self blame)</i> • <i>Externalising (anger, blaming others)</i> • <i>Relief</i>
Self identity	<ul style="list-style-type: none"> • <i>Identify as a woman/promiscuity</i> • <i>Being contaminated/dirty</i> • <i>Sexual self/desirability</i>
Ways of coping	<ul style="list-style-type: none"> • <i>Denial</i> • <i>Avoidance</i> • <i>Acceptance over time</i>
Issues around disclosure	<ul style="list-style-type: none"> • <i>Fear of disclosing to partner</i> • <i>Disclosing to family/friends</i> • <i>Non disclosure</i> • <i>Bring "economical with the truth"</i> • <i>Being open and honest</i>

Table 1 – Themes and sub-themes

Research paper – Do STD related stigma, perceived risk and shame influence sexual safety in adolescents?

Background

Research conducted in the context of HIV/AIDS in Ghana has suggested that young people who have stigmatising attitudes towards those who are infected (for example, that they deserved to catch the illness because they were careless) are more likely to take risks with their own sexual health as they feel at a decreased risk of catching the disease. (Riley & Baah-Odoom 2010). This study aimed to find out if a similar relationship operates with other STD's that are more common in the UK, such as Chlamydia and Gonorrhoea. This study also aimed to explore how emotional reactions such as shame, and perceived severity of STD's may influence sexual behaviour.

Method

201 sixth form students aged 16-19 took part in the study. They completed a questionnaire which aimed to assess :

- Stigmatising attitudes towards STDs
- How at risk they feel of catching an STD
- Their past sexual behaviour
- Their future safe sex intentions
- Perceived severity of STDs
- Anticipated negative emotional reactions if they were to catch an STD

Results

As was predicted, higher levels of stigma were related to lower levels of perceived risk. However, results showed that contrary to expectation, those who saw themselves as being at higher risk of catching an STD had less safe intentions. Additionally, higher levels of stigma were related to safer future intentions.

Statistical analysis suggested that the relationships between the variables were being influenced by different demographic groups, mainly those from ethnic backgrounds other than white british, and those who had not yet had sex, however it was difficult to separate out as there was overlap between these groups (participants from other ethnic backgrounds were less likely to have had sex than white british participants).

Those who perceived the consequences of an STD as being more severe, and those who anticipated more emotional reactions to catching an STD were more likely to have safer future intentions.

Significant relationships were not found for past sexual behaviour, possibly because only 36% of the sample were sexually active.

Conclusions

The results suggested that STD's more common in this country may not be perceived as frightening enough to motivate people to change their sexual risk taking behaviour. The consequences of HIV are much more serious and therefore more likely to encourage people to take precautions.

The results also highlighted that emotions such as shame, guilt and embarrassment , and perceived severity of STD's may play an important role in future safe sex intentions.

References

Health Protection Agency (2013) *Sexually transmitted infections and chlamydia screening in*

England, 2012. Retrieved from http://www.hpa.org.uk/hpr/infections/hiv_sti.htm#stis

Hood, J.E, Friedman, A.L. (2011) Unveiling the hidden epidemic: a review of stigma associated with sexually transmissible infections. *Sexual Health*; 8: 159–170.

Riley, G. A., & Baah-Odoom, D. (2010). Do stigma, blame and stereotyping contribute to unsafe sexual behaviour? A test of claims about the spread of HIV/AIDS arising from social representation theory and the AIDS risk reduction model. *Social Science & Medicine*, 71(3), 600–7.

Appendices

Appendix 1 – Notes for contributors to International Journal of Sexual Health

Appendix 2 – CASP Quality Framework

Appendix 3 – Letter of Ethical Approval

Appendix 4 – Information Sheet



Information Sheet - April 2012

Views on Sexually Transmitted Diseases, Perceived Risk and Sexual Behaviour in Young People

What is the research about?

This research is investigating young people's views on Sexually Transmitted Diseases, (STDs) how at risk they feel of catching an STD and their sexual behaviour. I am interested in how people's views about STDs might influence their past and future sexual behaviour.

Who is carrying out the research?

My name is Jennifer Doran and I am a Trainee Clinical Psychologist at the University of Birmingham. I am carrying out this research as part of my doctoral training. I am being supervised by Dr Gerry Riley from the School of Psychology at the University of Birmingham. This research has been approved by the University of Birmingham Ethics Committee.

Why have I been asked to take part? Do I have to take part?

You have been asked to take part because you are between the ages of 16-19. You do not have to take part and are free to leave the session at any time. If you change your mind while you are completing the questionnaire, you can leave the session and your answers will be destroyed. If you change your mind after you have filled out the questionnaire, you can contact the researcher within **1 week** and your responses will be destroyed. To do this you will need to make a note of your participant number (at the top of your questionnaire).

What will I have to do if I take part?

You will be asked to complete a short questionnaire which should take no more than 20 minutes to answer.

What will I be asked about?

You will be asked questions about your views on STDs, how at risk you feel of contracting an STD and your past sexual behaviour. You will also be asked about how you think you might behave in future, and how you might feel if you found out you had an STD. Questions require a yes or no answer, or ask you to circle an answer out of different options. You will not be asked to write down in detail about your sexual experiences.

Will my answers be confidential?

Yes. If you decide to take part in the research, you will be asked to sign a consent form. Your name will not be written on your questionnaire. Your consent form will be kept separately from your answers and they will be linked by a code that only the researcher and supervisor will have access to.

What will happen to my answers?

The results of the questionnaires will be combined and analysed and written up as a report.

Prize Draw to win an I-pod

Whether or not you decide to take part in the research, you will have the opportunity to be entered into a prize draw to win an I-pod. Once all the data has been collected, the winner will be pulled out of a hat. If you do wish to be entered, please tick the box on the consent form and provide an email address so you can be contacted if you win.

Who can I contact if I have any questions?

If you have any questions about taking part in the research, you can contact the researcher, Jenny Doran onor Dr Gerry Riley on

If you would like to talk to someone about any concerns regarding your sexual health, or have questions about Sexually Transmitted Diseases, you can contact **your GP** or the **Brook Advisory Service** on 0808 802 1234, or visit www.brook.org.uk.

Alternatively you could speak to your school/college counsellor *

*(If available/appropriate)

Appendix 5 – Consent Form



Participant Code:

Consent form for students

1) I have read the Information Sheet dated October 2012 and have had enough time to ask the researcher any questions about the research

2) I understand that I am taking part voluntarily and can change my mind and leave the session at any time when filling out the questionnaire.

3) I know that my answers will be confidential and my name will not be written on the questionnaire, and this consent form will be kept separately from my answers.

4) I would be willing to take part in the follow up in approximately 6 weeks' time where I will be asked to complete one of the sections of the questionnaire again

5) I would like to be entered into the prize draw to win an I-pod
(please write down your email address so you can be notified if you win)

.....

.....

Name

.....

Signed

.....

Date

Questionnaire – Views on Sexually Transmitted Infections and Sexual Behaviour

Demographic information

Age

Gender

Ethnicity

White British	Black Carribean	White and Black African	Pakistani
White Irish	Black African	Chinese	Other (please specify):
White European	White and Black Carribean	Indian	

Religion

Christian	Muslim	Hindu
Sikh	Jewish	No religion

Other (please specify):

How would you describe your sexuality? Heterosexual (Straight) Homosexual (Gay)
 Bisexual Other
 Rather not say

Are you currently in a relationship? YES NO

Have you ever been tested for sexually transmitted infections? YES NO

Section 1

This section is about how at risk you feel of contracting a Sexually Transmitted Infection (STI).

How much do you agree with the following statements?

	Strongly disagree	Mildly disagree	Not sure	Mildly agree	Strongly agree
1)The chances of me catching an STI are low					
2)Compared to most others my age, I would consider myself at less risk of catching an STI					
3)People like me don't catch STIs.					
4)I don't feel under threat from STIs					
5)It is unlikely that I would ever catch an STI					
6)The risks of catching an STI are exaggerated					
7)Even if you have sex without a condom, your chances of getting an STI are not that high					

Section 2

This section is about your views on STIs.

How much do you agree with the following statements?

	Strongly disagree	Mildly disagree	Not sure	Mildly agree	Strongly agree
1) If a close friend (not a sexual partner) told me they had caught an STI, it would upset me.					
2) Someone who catches an STI has let themselves down					
3) I would avoid making friends with someone that I knew had an STI.					
4) People who catch STIs because of unprotected sex deserve what they get.					
5) I would be disappointed if any of my close friends (not sexual partners) caught an STI.					

	Strongly Disagree	Mildly disagree	Not sure	Mildly agree	Strongly agree
6) Someone who catches an STI hasn't been taking proper care of themselves.					
7) Finding out that a friend (not a sexual partner) had caught an STI could have a bad effect on our friendship.					
8) People who catch STIs are generally careless and irresponsible					
9) I don't have much sympathy for people who catch STIs.					
10) Someone who catches an STI has probably been hanging out with the wrong crowd					
11) I would not want to get involved in a sexual relationship with someone who had had an STI in the past.					
12) People who catch STIs have only themselves to blame.					
13) I would feel disgusted if a friend (not a sexual partner) told me that they had caught an STI					
14) People who catch STIs have probably been sleeping around.					
15) If I found out that someone I knew had an STI, I would think less of them.					
16) People with STIs should be ashamed of themselves.					

Section 3

This section is about your sexual behaviour.

1. Have you ever had sexual intercourse? (vaginal, anal or oral sex) Yes / No
(If answer to this is No, please miss out the rest of this section)
2. How many sexual partners have you had in the past year?
None / one / two / three/ more than three

3) In the past, how often have you had sex with someone you knew well but who wasn't your girlfriend/boyfriend? <i>If NEVER go to Q5</i>	Never	A few times	Often
4) How often have you used a condom in the past when having sex with someone you knew well but who wasn't your girlfriend/boyfriend?	Never	Sometimes	Always
5) In the past, how often have you had sex with someone you didn't know very well or had only just met? <i>If NEVER go to Q7</i>	Never	A few times	Often
6) How often have you used a condom in the past when having sex with someone you didn't know very well or had only just met?	Never	Sometimes	Always
7) How often have you asked a new sexual partner, before having sex with them, about their sexual history?	Never	Sometimes	Always
8) How often have you asked a new sexual partner, before having sex with them, whether they have (or might have) an STI?	Never	Sometimes	Always

Section 4

This section is about how you think you might behave in the future.

- 1) Do you intend to avoid having sex until you are married? Yes / No
(If Yes, please miss out the rest of this section)

	Definitely not	Probably not	Not sure	Probably	Definitely
2) In the future, will you avoid having sex with someone you know well but who isn't your girlfriend/boyfriend?					
3) In the future, would you use a condom if you did have sex with someone you know well but who isn't your girlfriend/boyfriend?					

	Definitely not	Probably not	Not sure	Probably	Definitely
4) In the future, would you use a condom if you did have sex with someone you don't know very well or have only just met?					
5) In the future, do you think you will ever have more than three sexual partners in the space of one year?					
6) Before having sex with a new sexual partner in the future, would you ask them about their previous sexual history?					
7) Before having sex with a new sexual partner in the future, would you ask them if they might have an STI?					

Suppose you had an opportunity for sex with a new sexual partner, but no condoms were available. Would you go ahead and have sex WITHOUT A CONDOM:

	Definitely not	Probably not	Not sure	Probably	Definitely
8) If the other person told you they did not have an STI?					
9) If the other person looked healthy and well?					
10) If you had known the other person for a long time?					
11) If you knew the other person had had a lot of sexual partners in the past?					

Section 5

How much do you agree with the following statements?

	Disagree a lot	Disagree a little	Not sure	Agree a little	Agree a lot
1) It's really important to me to protect myself against catching an STI					
2) Catching an STI is a risk I'm willing to take if it means having a good time sexually					
3) Having an exciting sex life is more important to me than avoiding STIs					
4) Avoiding STIs is something that matters a lot to me					
5) If the opportunity to have sex came along, I would take it – regardless of the risk of catching an STI					

Section 6

How much would you feel the following if you caught an STI?

	Not at all	Not very much	A bit	Quite a lot	Very
Ashamed					
Dirty					
Outraged					
Worried					
Depressed					
Embarrassed					
Contaminated					
Angry with myself					
Anxious					
Regret					
Guilty					
Soiled					
Angry with the person who gave it to me					
Scared					
Humiliated					
Disgusted					
Disappointed in myself					

Appendix 7 – Statistical Analysis/SPSS Output

Non-parametric whole sample correlations

			revrisk	totalimport	totalemotion	Stigmatotal	revISS	revactualbehav5it ems
Spearman's rho	Revrisk	Correlation Coefficient	1.000	-.105	-.170 [*]	-.257 ^{**}	-.176 [*]	-.191
		Sig. (2-tailed)	.	.141	.016	.000	.012	.167
		N	201	199	201	201	201	54
	Totalimport	Correlation Coefficient	-.105	1.000	.298 ^{**}	-.005	.478 ^{**}	.169
		Sig. (2-tailed)	.141	.	.000	.947	.000	.222
		N	199	199	199	199	199	54
	totalemotion	Correlation Coefficient	-.170 [*]	.298 ^{**}	1.000	.378 ^{**}	.261 ^{**}	-.040
		Sig. (2-tailed)	.016	.000	.	.000	.000	.774
		N	201	199	201	201	201	54
	Stigmatotal	Correlation Coefficient	-.257 ^{**}	-.005	.378 ^{**}	1.000	.151 [*]	.059
		Sig. (2-tailed)	.000	.947	.000	.	.033	.672
		N	201	199	201	201	201	54
	revises	Correlation Coefficient	-.176 [*]	.478 ^{**}	.261 ^{**}	.151 [*]	1.000	.359 ^{**}
		Sig. (2-tailed)	.012	.000	.000	.033	.	.008
		N	201	199	201	201	201	54
	revactualbehav5items	Correlation Coefficient	-.191	.169	-.040	.059	.359 ^{**}	1.000
		Sig. (2-tailed)	.167	.222	.774	.672	.008	.
		N	54	54	54	54	54	54

Demographic correlations – relationship status

Correlations

			revrisk	totalimport	totalemotion	Stigmatotal	revISS	revactualbehav5items
Spearman's rho	yes	Correlation Coefficient	1.000	.012	-.096	-.143	-.120	-.065
		Sig. (2-tailed)	.	.932	.503	.318	.400	.742
		N	51	51	51	51	51	28
	totalimport	Correlation Coefficient	.012	1.000	.297*	-.170	.489**	.241
		Sig. (2-tailed)	.932	.	.034	.234	.000	.216
		N	51	51	51	51	51	28
	totalemotion	Correlation Coefficient	-.096	.297*	1.000	.474**	.182	-.063
		Sig. (2-tailed)	.503	.034	.	.000	.202	.751
		N	51	51	51	51	51	28
	Stigmatotal	Correlation Coefficient	-.143	-.170	.474**	1.000	.031	-.125
		Sig. (2-tailed)	.318	.234	.000	.	.829	.526
		N	51	51	51	51	51	28
	revISS	Correlation Coefficient	-.120	.489**	.182	.031	1.000	.174
		Sig. (2-tailed)	.400	.000	.202	.829	.	.375
		N	51	51	51	51	51	28
	revactualbehav5items	Correlation Coefficient	-.065	.241	-.063	-.125	.174	1.000
		Sig. (2-tailed)	.742	.216	.751	.526	.375	.
		N	28	28	28	28	28	28
no	Correlation Coefficient	1.000	-.141	-.207*	-.283**	-.195*	-.193	
	Sig. (2-tailed)	.	.087	.011	.000	.017	.345	
	N	150	148	150	150	150	26	

	Correlation Coefficient	-.141	1.000	.271**	.038	.438**	-.046
totalimport	Sig. (2-tailed)	.087	.	.001	.650	.000	.823
	N	148	148	148	148	148	26
	Correlation Coefficient	-.207*	.271**	1.000	.354**	.256**	-.142
totalemotion	Sig. (2-tailed)	.011	.001	.	.000	.002	.489
	N	150	148	150	150	150	26
	Correlation Coefficient	-.283**	.038	.354**	1.000	.198*	.176
Stigmatotal	Sig. (2-tailed)	.000	.650	.000	.	.015	.389
	N	150	148	150	150	150	26
	Correlation Coefficient	-.195*	.438**	.256**	.198*	1.000	.280
revISS	Sig. (2-tailed)	.017	.000	.002	.015	.	.166
	N	150	148	150	150	150	26
	Correlation Coefficient	-.193	-.046	-.142	.176	.280	1.000
revactualbehav5items	Sig. (2-tailed)	.345	.823	.489	.389	.166	.
	N	26	26	26	26	26	26

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Demographic correlations – Ethnic groups

Correlations

Ethnicgroup			revrisk	totalimport	totalemotion	Stigmatotal	revISS	revactualbehav5it ems	
1.00	Spearman's rho	Correlation Coefficient	1.000	-.055	-.031	-.149	-.091	-.161	
		Sig. (2-tailed)	.	.513	.711	.072	.273	.304	
		N	146	145	146	146	146	43	
	totalimport	Correlation Coefficient	-.055	1.000	.250**	-.138	.452**	.171	
		Sig. (2-tailed)	.513	.	.002	.099	.000	.273	
		N	145	145	145	145	145	43	
	totalemotion	Correlation Coefficient	-.031	.250**	1.000	.255**	.140	.000	
		Sig. (2-tailed)	.711	.002	.	.002	.092	1.000	
		N	146	145	146	146	146	43	
	Stigmatotal	Correlation Coefficient	-.149	-.138	.255**	1.000	.004	.138	
		Sig. (2-tailed)	.072	.099	.002	.	.961	.376	
		N	146	145	146	146	146	43	
	revISS	Correlation Coefficient	-.091	.452**	.140	.004	1.000	.240	
		Sig. (2-tailed)	.273	.000	.092	.961	.	.121	
		N	146	145	146	146	146	43	
revactualbehav5items	Correlation Coefficient	-.161	.171	.000	.138	.240	1.000		
	Sig. (2-tailed)	.304	.273	1.000	.376	.121	.		
	N	43	43	43	43	43	43		
2.00	Spearman's rho	Correlation Coefficient	1.000	-.171	-.430**	-.316*	-.297*	-.487	
		Sig. (2-tailed)	.	.221	.001	.020	.029	.128	
		N	54	53	54	54	54	11	
		totalimport	Correlation Coefficient	-.171	1.000	.356**	.196	.500**	.247

STDs: Psychosocial Impact, Stigma & Sexual Behaviour

	Sig. (2-tailed)	.221	.	.009	.160	.000	.464
	N	53	53	53	53	53	11
	Correlation Coefficient	-.430**	.356**	1.000	.514**	.351**	.252
totalemotion	Sig. (2-tailed)	.001	.009	.	.000	.009	.455
	N	54	53	54	54	54	11
	Correlation Coefficient	-.316*	.196	.514**	1.000	.342*	-.149
Stigmatotal	Sig. (2-tailed)	.020	.160	.000	.	.011	.661
	N	54	53	54	54	54	11
	Correlation Coefficient	-.297*	.500**	.351**	.342*	1.000	.664*
revISS	Sig. (2-tailed)	.029	.000	.009	.011	.	.026
	N	54	53	54	54	54	11
	Correlation Coefficient	-.487	.247	.252	-.149	.664*	1.000
revactualbehav5items	Sig. (2-tailed)	.128	.464	.455	.661	.026	.
	N	11	11	11	11	11	11

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Demographic correlations – Had sex

			Correlations					
Actbehavhadsex			revrisk	totalimport	totalemotion	Stigmatotal	revISS	revactualbehav5items
yes	Spearman's rho	Correlation Coefficient	1.000	-.070	-.137	-.088	-.162	-.191
		Sig. (2-tailed)	.	.559	.249	.457	.172	.167
		N	73	73	73	73	73	54
		Correlation Coefficient	-.070	1.000	.189	-.178	.612**	.169
		Sig. (2-tailed)	.559	.	.110	.133	.000	.222
		N	73	73	73	73	73	54
		Correlation Coefficient	-.137	.189	1.000	.365**	.175	-.040
		Sig. (2-tailed)	.249	.110	.	.002	.138	.774
		N	73	73	73	73	73	54
	Correlation Coefficient	-.088	-.178	.365**	1.000	-.062	.059	
	Sig. (2-tailed)	.457	.133	.002	.	.604	.672	
	N	73	73	73	73	73	54	
	Correlation Coefficient	-.162	.612**	.175	-.062	1.000	.359**	
	Sig. (2-tailed)	.172	.000	.138	.604	.	.008	
	N	73	73	73	73	73	54	
	Correlation Coefficient	-.191	.169	-.040	.059	.359**	1.000	
	Sig. (2-tailed)	.167	.222	.774	.672	.008	.	
	N	54	54	54	54	54	54	
no	Spearman's rho	Correlation Coefficient	1.000	-.112	-.158	-.191 [†]	-.170	.
		Sig. (2-tailed)	.	.243	.096	.043	.074	.
		N	112	111	112	112	112	0

STDs: Psychosocial Impact, Stigma & Sexual Behaviour

	Correlation Coefficient	-.112	1.000	.343**	.073	.503**	.
totalimport	Sig. (2-tailed)	.243	.	.000	.446	.000	.
	N	111	111	111	111	111	0
	Correlation Coefficient	-.158	.343**	1.000	.428**	.270**	.
totalemotion	Sig. (2-tailed)	.096	.000	.	.000	.004	.
	N	112	111	112	112	112	0
	Correlation Coefficient	-.191*	.073	.428**	1.000	.237*	.
Stigmatotal	Sig. (2-tailed)	.043	.446	.000	.	.012	.
	N	112	111	112	112	112	0
	Correlation Coefficient	-.170	.503**	.270**	.237*	1.000	.
revISS	Sig. (2-tailed)	.074	.000	.004	.012	.	.
	N	112	111	112	112	112	0
	Correlation Coefficient	.	.	.	.	.	.
revactualbehav5items	Sig. (2-tailed)	.	.	.	.	.	.
	N	0	0	0	0	0	0

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Demographic correlations – gender

			Correlations						
Gender			revrisk	totalimport	totalemotion	Stigmatotal	revISS	revactualbehav5items	
male	Spearman's rho	Correlation Coefficient	1.000	-.260 [*]	-.208	-.205	-.227 [*]	-.133	
		Sig. (2-tailed)	.	.019	.060	.064	.040	.554	
		N	82	81	82	82	82	22	
	totalimport	Correlation Coefficient	-.260 [*]	1.000	.108	.023	.539 ^{**}	.189	
		Sig. (2-tailed)	.019	.	.338	.837	.000	.400	
		N	81	81	81	81	81	22	
	totalemotion	Correlation Coefficient	-.208	.108	1.000	.361 ^{**}	.032	-.222	
		Sig. (2-tailed)	.060	.338	.	.001	.777	.320	
		N	82	81	82	82	82	22	
	Stigmatotal	Correlation Coefficient	-.205	.023	.361 ^{**}	1.000	.065	-.035	
		Sig. (2-tailed)	.064	.837	.001	.	.562	.877	
		N	82	81	82	82	82	22	
	revISS	Correlation Coefficient	-.227 [*]	.539 ^{**}	.032	.065	1.000	.479 [*]	
		Sig. (2-tailed)	.040	.000	.777	.562	.	.024	
		N	82	81	82	82	82	22	
	revactualbehav5items	Correlation Coefficient	-.133	.189	-.222	-.035	.479 [*]	1.000	
		Sig. (2-tailed)	.554	.400	.320	.877	.024	.	
		N	22	22	22	22	22	22	
female	Spearman's rho	Correlation Coefficient	1.000	-.037	-.193 [*]	-.277 ^{**}	-.239 ^{**}	-.298	
		Sig. (2-tailed)	.	.694	.036	.002	.009	.097	
		N	118	117	118	118	118	32	
		totalimport	Correlation Coefficient	-.037	1.000	.345 ^{**}	.012	.372 ^{**}	.105

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	Sig. (2-tailed)	.694	.	.000	.901	.000	.569
	N	117	117	117	117	117	32
	Correlation Coefficient	-.193 [*]	.345 ^{**}	1.000	.442 ^{**}	.206 [*]	.028
totalemotion	Sig. (2-tailed)	.036	.000	.	.000	.026	.881
	N	118	117	118	118	118	32
	Correlation Coefficient	-.277 ^{**}	.012	.442 ^{**}	1.000	.256 ^{**}	.177
Stigmatotal	Sig. (2-tailed)	.002	.901	.000	.	.005	.333
	N	118	117	118	118	118	32
	Correlation Coefficient	-.239 ^{**}	.372 ^{**}	.206 [*]	.256 ^{**}	1.000	.184
revISS	Sig. (2-tailed)	.009	.000	.026	.005	.	.312
	N	118	117	118	118	118	32
	Correlation Coefficient	-.298	.105	.028	.177	.184	1.000
revactualbehav5items	Sig. (2-tailed)	.097	.569	.881	.333	.312	.
	N	32	32	32	32	32	32

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Demographic correlations – intention to remain celibate

Correlations

Intent to remain celibate til marriage			revrisk	totalimport	totalemotion	Stigmatotal	revISS	revactualbehav5items
yes(no sex before marriage)	Spearman's rho	Correlation	1.000	-.016	-.191	.088	.	.
		Coefficient						
		Sig. (2-tailed)	.	.945	.394	.698	.	.
		N	22	21	22	22	22	0
		Correlation	-.016	1.000	.295	.475*	.	.
		Coefficient						
		Sig. (2-tailed)	.945	.	.194	.030	.	.
		N	21	21	21	21	21	0
		Correlation	-.191	.295	1.000	.585**	.	.
		Coefficient						
		Sig. (2-tailed)	.394	.194	.	.004	.	.
		N	22	21	22	22	22	0
		Correlation	.088	.475*	.585**	1.000	.	.
		Coefficient						
		Sig. (2-tailed)	.698	.030	.004	.	.	.
		N	22	21	22	22	22	0
		Correlation	.	.	.	.	.	.
		Coefficient						
		Sig. (2-tailed)	.	.	.	.	.	.
		N	22	21	22	22	22	0
		Correlation	.	.	.	.	.	.
		Coefficient						
		Sig. (2-tailed)	.	.	.	.	.	.

STDs: Psychosocial Impact, Stigma & Sexual Behaviour

		N	0	0	0	0	0	0
		Correlation	1.000	-.057	-.113	-.251**	-.052	-.191
		Coefficient						
	revrisk	Sig. (2-tailed)	.	.454	.133	.001	.493	.167
		N	178	177	178	178	178	54
		Correlation	-.057	1.000	.284**	-.108	.464**	.169
		Coefficient						
	totalimport	Sig. (2-tailed)	.454	.	.000	.154	.000	.222
		N	177	177	177	177	177	54
		Correlation	-.113	.284**	1.000	.303**	.201**	-.040
		Coefficient						
	totalemotion	Sig. (2-tailed)	.133	.000	.	.000	.007	.774
no (planning to have sex before marriage)	Spearman's rho	N	178	177	178	178	178	54
		Correlation	-.251**	-.108	.303**	1.000	.036	.059
		Coefficient						
	Stigmatotal	Sig. (2-tailed)	.001	.154	.000	.	.630	.672
		N	178	177	178	178	178	54
		Correlation	-.052	.464**	.201**	.036	1.000	.359**
		Coefficient						
	revISS	Sig. (2-tailed)	.493	.000	.007	.630	.	.008
		N	178	177	178	178	178	54
		Correlation	-.191	.169	-.040	.059	.359**	1.000
		Coefficient						
	revactualbehav5items	Sig. (2-tailed)	.167	.222	.774	.672	.008	.
		N	54	54	54	54	54	54

Demographic correlations – Religion

			Correlations					
relig2groups			revrisk	totalimport	totalemotion	Stigmatotal	revISS	revactualbehav5items
1.00	Spearman's rho	Correlation Coefficient	1.000	-.084	-.115	-.220**	-.142	-.223
		Sig. (2-tailed)	.	.280	.137	.004	.065	.112
		N	169	168	169	169	169	52
	totalimport	Correlation Coefficient	-.084	1.000	.257**	-.062	.441**	.174
		Sig. (2-tailed)	.280	.	.001	.422	.000	.217
		N	168	168	168	168	168	52
	totalemotion	Correlation Coefficient	-.115	.257**	1.000	.321**	.264**	-.003
		Sig. (2-tailed)	.137	.001	.	.000	.001	.983
		N	169	168	169	169	169	52
	Stigmatotal	Correlation Coefficient	-.220**	-.062	.321**	1.000	.083	.095
		Sig. (2-tailed)	.004	.422	.000	.	.281	.502
		N	169	168	169	169	169	52
	revISS	Correlation Coefficient	-.142	.441**	.264**	.083	1.000	.358**
		Sig. (2-tailed)	.065	.000	.001	.281	.	.009
		N	169	168	169	169	169	52
	revactualbehav5items	Correlation Coefficient	-.223	.174	-.003	.095	.358**	1.000
		Sig. (2-tailed)	.112	.217	.983	.502	.009	.
		N	52	52	52	52	52	52
2.00	Spearman's rho	Correlation Coefficient	1.000	-.078	-.243	-.218	-.308	.
		Sig. (2-tailed)	.	.699	.213	.264	.111	.

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	N	28	27	28	28	28	1
	Correlation Coefficient	-.078	1.000	.559**	.190	.569**	.
totalimport	Sig. (2-tailed)	.699	.	.002	.343	.002	.
	N	27	27	27	27	27	1
	Correlation Coefficient	-.243	.559**	1.000	.476*	.199	.
totalemotion	Sig. (2-tailed)	.213	.002	.	.010	.311	.
	N	28	27	28	28	28	1
	Correlation Coefficient	-.218	.190	.476*	1.000	.309	.
Stigmatotal	Sig. (2-tailed)	.264	.343	.010	.	.110	.
	N	28	27	28	28	28	1
	Correlation Coefficient	-.308	.569**	.199	.309	1.000	.
revISS	Sig. (2-tailed)	.111	.002	.311	.110	.	.
	N	28	27	28	28	28	1
	Correlation Coefficient	.	.	.	.	.	.
revactualbehav5items	Sig. (2-tailed)	.	.	.	.	.	.
	N	1	1	1	1	1	1

Non – parametric tests – ethnicity and religion

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of revrisk is the same across categories of ethnicgroup.	Independent-Samples Mann-Whitney U Test	.004	Reject the null hypothesis.
2	The distribution of totalimport is the same across categories of ethnicgroup.	Independent-Samples Mann-Whitney U Test	.032	Reject the null hypothesis.
3	The distribution of totalemotion is the same across categories of ethnicgroup.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
4	The distribution of Stigmatotal is the same across categories of ethnicgroup.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
5	The distribution of revISS is the same across categories of ethnicgroup.	Independent-Samples Mann-Whitney U Test	.005	Reject the null hypothesis.
6	The distribution of revactualbehav5items is the same across categories of ethnicgroup.	Independent-Samples Mann-Whitney U Test	.003	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of revrisk is the same across categories of relig2groups.	Independent-Samples Mann-Whitney U Test	.017	Reject the null hypothesis.
2	The distribution of totalimport is the same across categories of relig2groups.	Independent-Samples Mann-Whitney U Test	.364	Retain the null hypothesis.
3	The distribution of totalemotion is the same across categories of relig2groups.	Independent-Samples Mann-Whitney U Test	.001	Reject the null hypothesis.
4	The distribution of Stigmatotal is the same across categories of relig2groups.	Independent-Samples Mann-Whitney U Test	.001	Reject the null hypothesis.
5	The distribution of revISS is the same across categories of relig2groups.	Independent-Samples Mann-Whitney U Test	.044	Reject the null hypothesis.
6	The distribution of revactualbehav5items is the same across categories of relig2groups.	Independent-Samples Mann-Whitney U Test	.226 ¹	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

¹Exact significance is displayed for this test.

Non – parametric tests – Had sex

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of revrisk is the same across categories of actbehavhadsex.	Independent-Samples Kruskal-Wallis Test	.003	Reject the null hypothesis.
2	The distribution of totalimport is the same across categories of actbehavhadsex.	Independent-Samples Kruskal-Wallis Test	.074	Retain the null hypothesis.
3	The distribution of totalemotion is the same across categories of actbehavhadsex.	Independent-Samples Kruskal-Wallis Test	.412	Retain the null hypothesis.
4	The distribution of Stigmatotal is the same across categories of actbehavhadsex.	Independent-Samples Kruskal-Wallis Test	.003	Reject the null hypothesis.
5	The distribution of revISS is the same across categories of actbehavhadsex.	Independent-Samples Kruskal-Wallis Test	.050	Reject the null hypothesis.
6	The distribution of revactualbehav5items is the same across categories of actbehavhadsex.	Independent-Samples Kruskal-Wallis Test	.	Unable to compute.

Asymptotic significances are displayed. The significance level is .05.

Non – parametric tests - gender

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of revrisk is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.307	Retain the null hypothesis.
2	The distribution of totalimport is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
3	The distribution of totalemotion is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
4	The distribution of Stigmatotal is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.423	Retain the null hypothesis.
5	The distribution of revISS is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
6	The distribution of revactualbehav5items is the same across categories of Gender.	Independent-Samples Mann-Whitney U Test	.267	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Non-parametric tests – relationship status

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of revrisk is the same across categories of Relationship.	Independent-Samples Mann-Whitney U Test	.296	Retain the null hypothesis.
2	The distribution of totalimport is the same across categories of Relationship.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.
3	The distribution of totalemotion is the same across categories of Relationship.	Independent-Samples Mann-Whitney U Test	.258	Retain the null hypothesis.
4	The distribution of Stigmatotal is the same across categories of Relationship.	Independent-Samples Mann-Whitney U Test	.262	Retain the null hypothesis.
5	The distribution of revISS is the same across categories of Relationship.	Independent-Samples Mann-Whitney U Test	.047	Reject the null hypothesis.
6	The distribution of revactualbehav5items is the same across categories of Relationship.	Independent-Samples Mann-Whitney U Test	.021	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Non-parametric tests – intention to remain celibate

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of revrisk is the same across categories of futurebehavmarriage.	Independent-Samples Kruskal-Wallis Test	.001	Reject the null hypothesis.
2	The distribution of totalimport is the same across categories of futurebehavmarriage.	Independent-Samples Kruskal-Wallis Test	.015	Reject the null hypothesis.
3	The distribution of totalemotion is the same across categories of futurebehavmarriage.	Independent-Samples Kruskal-Wallis Test	.015	Reject the null hypothesis.
4	The distribution of Stigmatotal is the same across categories of futurebehavmarriage.	Independent-Samples Kruskal-Wallis Test	.001	Reject the null hypothesis.
5	The distribution of revISS is the same across categories of futurebehavmarriage.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
6	The distribution of revactualbehav5items is the same across categories of futurebehavmarriage.	Independent-Samples Kruskal-Wallis Test	.	Unable to compute.

Asymptotic significances are displayed. The significance level is .05.

Relationships between demographic groups - Chi square

Ethnicity and religion Crosstabulation

Count

		relig2groups		Total
		1.00	2.00	
ethnicgroup	1.00	141	2	143
	2.00	28	25	53
Total		169	27	196

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	68.203 ^a	1	.000		
Continuity Correction ^b	64.404	1	.000		
Likelihood Ratio	62.786	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	67.855	1	.000		
N of Valid Cases	196				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.30.

b. Computed only for a 2x2 table

Relationships between demographic groups - Chi square

ethnicgroup * actbehavhadsex Crosstabulation

Count

		actbehavhadsex			Total
		didnt answer	yes	no	
ethnicgroup	1.00	13	59	74	14
	2.00	3	13	38	5
Total		16	72	112	200

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.203 ^a	2	.045
Likelihood Ratio	6.374	2	.041
Linear-by-Linear Association	5.081	1	.024
N of Valid Cases	200		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.32.

Relationships between demographic groups - Chi square

Relationship status * actbehavhadsex Crosstabulation

Count

		actbehavhadsex			Total
		didnt answer	yes	no	
Relationship	yes	4	42	5	51
	no	12	31	107	150
Total		16	73	112	201

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	65.736 ^a	2	.000
Likelihood Ratio	69.297	2	.000
Linear-by-Linear Association	34.901	1	.000
N of Valid Cases	201		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.06.

Relationships between demographic groups - Chi square

relig2groups * actbehavhadsex Crosstabulation

Count		actbehavhadsex			Total
		didnt answer	yes	no	
relig2groups	1.00	14	68	87	1
	2.00	1	4	23	
Total		15	72	110	1

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.171 ^a	2	.010
Likelihood Ratio	10.024	2	.007
Linear-by-Linear Association	7.440	1	.006
N of Valid Cases	197		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 2.13.

Relationships between demographic groups - Chi square

relig2groups * intent to remain celibate Crosstabulation

Count

		Intent to remain celibate			Total
		didnt answer	yes(no sex before marriage)	no (planning to have sex before marriage)	
relig2groups	1.00	1	10	158	169
	2.00	0	11	17	28
Total		1	21	175	197

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	28.161 ^a	2	.000
Likelihood Ratio	20.443	2	.000
Linear-by-Linear Association	21.855	1	.000
N of Valid Cases	197		

a. 3 cells (50.0%) have expected count less than 5. The minimum expected count is .14.

