Chlamydia screening in adults attending a sexual health clinic: Stages of Change, anxiety and sexual behaviour.

being a Thesis submitted in partial fulfilment of the requirement for the Degree of Doctor of Clinical Psychology

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ABSTRACT

The aim of this research was to examine an individual's stage of change (SOC) for positive sexual health behaviours, (i.e. using condoms and seeking screening for sexually transmitted infections-STIs) and level of state anxiety at different times during attendance at a sexual health clinic (before examination, after treatment and at 6 week follow up). The study investigated whether there is a relationship between level of anxiety and SOC for positive sexual health behaviours depending on whether a patient is asymptomatic or not. Furthermore the research aimed to find out if level of anxiety and SOC for positive sexual health behaviours predict whether patients return back to the clinic.

The study involved a repeated measures longitudinal design. Participants were asked to complete a sexual health questionnaire, which examined components of the Transtheoretical Model of behaviour change and level of state anxiety at three different phases of the study.

There was no relationship between SOC for condom use and patients who were asymptomatic and those who were not. There was a relationship found with STI screening; asymptomatic patients were more likely to be in the earlier SOC and symptomatic patients were more likely to be in the later SOC. There was no difference in levels of anxiety between patients who were asymptomatic and those who were not. Level of anxiety was not a predictor for SOC for positive sexual health behaviours at initial attendance. Finally, SOC for positive sexual health behaviour and anxiety did not predict whether a patient would return to the clinic.
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INTRODUCTION

Overview

The introduction aims to provide an overview of the current understanding and difficulties surrounding sexually transmitted infections (STIs) like Chlamydia. It aims to summarise current psychological research into sexual health and behaviour change and provide a rationale for specific psychological research investigating Chlamydia, anxiety and behaviour change.

Firstly an outline of the relevant background to sexual health will be described followed by an extensive literature search on why STIs may be increasing. This will then lead on to recent government legislation that has proposed to tackle the current difficulties. A critique of psychological models on health behaviour change will be discussed then the issues surrounding the uptake of screening and anxiety will be highlighted. This will lead into the rationale for the study, the research aims and the research questions.
BACKGROUND TO SEXUAL HEALTH

Psychological input in sexual health services began in 1981 when HIV was first identified (Shaw & Butler, 2007). The changing nature of the epidemic has provided psychologists and other health professionals working in this area with many challenges over recent years. This first chapter will outline the background to sexual health and its importance to overall well-being and psychological functioning.

Sexual health is an important issue that affects most of the population. A definition by the National Strategy for Sexual Health and HIV (human immunodeficiency virus), (Department of Health, 2001) states:

"Sexual health is an important part of physical and mental health. It is a key part of our identity as human beings together with the fundamental human rights to privacy, a family life and living free from discrimination. Essential elements of good sexual health are equitable relationships and sexual fulfilment with access to information and services to avoid the risk of unintended pregnancy, illness or disease (p.7)".

However the current rates of STIs are increasing dramatically in the UK despite good access to information and services being provided. Over the last decade the cases of new diagnosed infections have increased by a staggering 60% (Health Protection Agency; HPA, 2006).

The most common bacterial STI is genital Chlamydia Trachomatis. In 2005, 109, 958 diagnoses of Chlamydia were made in Genitourinary (GUM) clinics across the UK, a total
5% increase from the 104,733 diagnoses made in 2004 (HPA, 2006). Studies have shown that people who are most at risk are within 16-24 age range (LaMontagne, Fenton, Randall, Anderson, & Carter, 2004). However the trend in increased infection rates has been observed across all age ranges, in particular a 16% increase was shown for males aged between 45-64 between 2004 and 2005. Moreover in the local area (Yorkshire and Humberside) there has also been a 39% increase in the number of homosexuals males diagnosed with Chlamydia (HPA, 2006).

A simple treatment of antibiotics is an effective cure for uncomplicated cases of Chlamydia if detected in the early stages. However most people who are infected with Chlamydia do not experience any symptoms. Approximately up to 80% of women and 50% of men are asymptomatic, thus a large number of cases are never actually diagnosed (Reitmeijer, Van Bemmelen, Judson, & Douglas, 2002). This has major public health significance because Chlamydia can have serious long-term consequences. The infection is a well-established cause of pelvic inflammatory disease leading to infertility, ectopic pregnancy and chronic pain in women (Westrom & Eschenbach, 1999; Eng & Butler, 1997). Men are also at risk and may go on to develop urethritis, proctitis or epididymitis (Quinn et al., 1996; Schachter, 1978). Chlamydia has also been associated with an increased risk of HIV transmission and acquisition (HPA, 2006).

These conditions have serious lifetime consequences for the individual concerned and are expensive to treat, making Chlamydia detection and treatment an important issue. The annual cost of Chlamydia and its consequences in the United Kingdom is estimated to be more than £100 million (HPA, 2006).
WHY ARE STIS ON THE INCREASE?

Contributors to Increased Infection Rates

There are many possible contributors to the current trend in increased infection rates. These can be defined into two distinct categories; behaviour-related contributors and infection-related contributors.

The behaviour-related contributors involve individuals' risk taking behaviour and their awareness of STIs. Infection-related contributors are factors that relate to the nature of the infection and its transmission. The following will outline the main findings of research on why an individual may be more susceptible to contracting an infection for both these categories.

Behaviour-Related Contributors

Main Concern is Risk of Unintended Pregnancy

One theory proposes that for young people the major concern is of unintended pregnancy, not STI (British Medical Association, 2002; Social Exclusion Unit, 1999). This means that individuals who are already utilising an alternative method of birth control perceive condoms to be irrelevant in relation to preventing pregnancy. This is supported by Critelli and Suire (1998), who found that decreased condom use was associated with alternative forms of birth control. This finding has also been found in the following studies (Hacker,
Brown, Cabral, & Dodds, 2005; Banikarim, Chacko, Wiemann & Smith, 2003; Roye, 1999; Cushman, Romero, & Kalmuss, 1998; Stark et al., 1998; Rosenthal, Biro, Succop, & Baker, 1994; Pilchta et al., 1992) Additionally Low et al. (2003) found that STIs did not rank highly in young peoples hierarchies of sexual health concerns. Therefore as a result of focusing on preventing an unwanted pregnancy the individual may increase their risk of contracting an STI.

Lack of Awareness and Knowledge

Another hypothesis to why STIs have increased is the amount of awareness and extent of knowledge the individual has about the STI. Many young people are misinformed about the nature of STIs, Low et al. (2003) reported that young people from all ethnic groups thought there would be obvious symptoms or other visual cues if they or their partner had a STI.

Furthermore, Fayers, Crowley, Jenkins and Cahill (2003) assessed the sexual health knowledge of medical students and found there was poor knowledge about the failure rate of condoms, abortion rates and prevalence of Chlamydia. This lack of awareness around chlamydial infection puts individuals at considerable risk of acquiring significant reproductive health complications in the future, due to its silent nature. Moreover about one-fifth of those surveyed mistakenly believed that condoms afford complete protection against sexually acquired infection, putting these individuals at further risk as they have no reason to believe they may need to access screening in the future.
Nevertheless despite evidence to suggest that people contract STIs due to their lack of awareness and knowledge some research has shown contradictory findings. Surveys conducted in the mid-1980s by the government in response to their HIV media campaigns showed high levels of public awareness of HIV and considerable anxiety in the population about the disease. However regardless of this, many people still failed to take precautions and many continued to contract STIs (Sherr, 1987).

Recent media campaigns for sexual health may also find similar responses from the general public. Research into the effects of anxiety on health behaviour have shown that people are more likely to respond to "fear messages" by increasing their "health promotion" behaviours, such as using condoms. However they are less likely to respond by engaging in "disease detection" behaviours, such as screening (Millar & Millar, 1996). Screening for Chlamydia is an essential component in the prevention of the spread of infection because it is frequently asymptomatic. Thus, expensive health promotion campaigns are in effect only targeting half the problem when focusing on primary prevention methods such as condom use. Anxiety in relation to STIs will be discussed further in the "Uptake of screening and anxiety" section of the Introduction.

**Inconsistent Condom Use**

There is a body of evidence to suggest that young people fail to use condoms consistently therefore putting themselves at risk of acquiring an STI. Fife-Shaw and Breakwell (1992) reviewed the literature on condom use and found that only between 24% and 58% of 16-24 year olds had used a condom during their most recent sexual encounter. More recently
Sonenstein, Ku, Lindberg, Turner and Pleck (1998) found that only 30-40% of individuals always used a condom during sexual intercourse. Abraham and Sheeran (1993) suggested that condom use is not solely dependent on awareness and perceived risk about STIs but involves other factors such as partner relationships and situational context. This may explain why past efforts to prevent STIs and their complications using primary prevention methods, such as condom use, have produced mixed results (Kiamb et al., 1998; Orr et al., 1996; Shain et al., 1999).

**Infection-Related Contributors**

**Highly Infectious Nature of Chlamydia**

Chlamydia is highly infectious in nature leading to easy transmission from one person to another. Thus, even those individuals who use condoms consistently may still be at risk from Chlamydia as primary prevention methods may not always be effective in giving complete protection against STIs. Pinkerton, Layde, DiFranceisco and Chesson (2003) examined the assumption that preventive methods that are effective against HIV should be equally effective against other STIs, including Chlamydia. The results found that limiting the number of sex partners is a more effective strategy for reducing transmission risks for highly infectious STIs. In contrast, condoms can be very effective at reducing cumulative transmission risk for low infectivity pathogens such as HIV but are somewhat less effective against highly infectious STIs such as Gonorrhoea and Chlamydia. The research is not without limitations however; the model used does not take into consideration people's selective condom use with different partners. Despite the limitations of the study, it is still
known that condoms are not 100 per cent effective barrier methods against STIs or pregnancy and that Chlamydia can be passed via oral sex and anal sex as well as vaginal intercourse (Wakely, Cunnion & Chambers, 2003).

**Asymptomatic Nature of Chlamydia**

As Chlamydia can remain asymptomatic in up to 80% of women and 50% of men it often means the infection can go undetected until the later complicated stages. If left undetected the prospect of the infection being treated without complications is slim. As Chlamydia can remain undetected the chance that an individual can pass on the infection without knowing is higher thus potentially increasing the rates of infection further.

As highlighted previously condoms are not always a guaranteed barrier against the contraction of the infection. Thus secondary prevention approaches should be considered, such as improving screening rates for asymptomatic infections (Centres for Disease Control and Prevention; CDC, 1998). Moreover promoting screening behaviour is a more effective way of targeting individuals with Chlamydia. As outlined previously, Chlamydia can have serious consequences on an individual’s health. It has been found that repeat infections appear to contribute to the development of a delayed hypersensitivity response suggesting the presence of asymptomatic tubal disease (Westrom & Eschenbach, 1999). Thus early detection of asymptomatic infections through screening is a critical step in decreasing the duration of infectiousness and preventing reproductive health complications. (Westrom & Eschenbach, 1999; CDC, 1993). This highlights the need for individuals to uptake
voluntary periodic screening and more screening after high-risk sexual behaviours and interventions to promote these behaviours.

Summary

There are many possible contributors to the rise in STIs over the past decade. As well as more young people having more sexual partners than ever before (Graham, 2004), there is evidence to suggest that people's attitude towards using condoms can vary depending on a number of factors, namely alternative methods of birth control and extent of knowledge and awareness about STIs. Furthermore the highly infectious nature of STIs has highlighted the necessity of secondary prevention methods such as screening in effectively tackling the problem. Finally, as Chlamydia is often asymptomatic many undetected cases may lead to negative long term consequences such as Pelvic Inflammatory Disease and infertility, which may have both financial and emotional costs for the individual.
GOVERNMENT SCHEMES

Sexual health was a key feature in the Choosing Health White Paper (Department of Health; DOH, 2006) and has been prioritized by the government for 2007. However sexual health has been a government agenda for some years now, in response to the dramatic increases in infection the Department of Health launched the National Strategy for Sexual Health and HIV in July 2001 (DOH, 2001). The Strategy focuses on integrated care, improved and targeted access to information on sexual health and removal of current inequalities in service provision. Following on from the Strategy the phased implementation of the National Chlamydia Screening Programme (NCSP) commenced in September 2002 (DOH, 2002). This involved the opportunistic screening of those at high risk to Chlamydial infection in specified areas.

Currently the NCSP aims to provide opportunistic screening to both men and women under the age of 25. In addition, the NCSP aims to improve general sexual awareness and reduce the prevalence and costly sequelae of Chlamydial infection. (HPA, 2006). Initially the programme intended to have nationwide coverage by 2008 however as the government is now committed to ensuring that screening becomes routine it has expedited the roll out of the programme to March 2007.

The third annual report from the NCSP (National Chlamydia Screening Steering Group: NCSSG, 2006) outlines that screening for Chlamydia can be effectively carried out in a number of settings such as GP surgery's, community contraceptive practices and voluntary or private sectors. In order to predict the success of the programme the NCSP used mathematical modeling to provide simulated prevalence rates. It is thought that a 40%
reduction in rates of Chlamydia infection can be achieved after 1 year resulting in 89% reduction after 10 years. However this is when 50% of the offers are accepted and 50% of the partners are treated effectively. Issues such as non-adherence to safe sex practices, failure to present for STI screening, failure to return after STI screening for treatment and non-compliance to treatment could be detrimental to the programme achieving its predicted success. Thus the third phase of the programme is to focus on identifying the most effective approaches in reducing Chlamydia and its onward transmission. This final phase of the programme will coincide with the production of public health guidelines on interventions to reduce STI and under 18 conceptions by National Institute for Clinical Excellence (NICE) in 2007, which highlights the move to prioritise this area of public health.

The prioritisation of provision of sexual health services is beginning to prove fruitful. The NCSP have had a positive response in relation to opportunistic screening, however there are still a number of factors that may impinge this initial success. The main adversary is people engaging in risky behaviours such as having unprotected sex. If people are continually engaging in these risks the programme will always struggle to a) identify these individuals to treat, b) treat effectively, c) identify and treat their partners effectively. Secondly there is the issue of non adherence, people who refuse to present for treatment and comply with medication are in effect wasting time, effort and money and continuing to spread infection.

These issues highlight an essential need for further promotion of the uptake of positive sexual health behaviours, such as using condoms and seeking STI screening. Understanding why people fail to adopt health protective behaviours and adhere to advice given emphasises a role for a psychological approach to STIs. Furthermore, the opportunity for
further psychological research in this area will allow for the development of effective interventions in preventing the spread of infections like Chlamydia.
PSYCHOLOGICAL MODELS

One way of gaining understanding about issues pertaining to sexual health is by applying theoretical frameworks. There are a number of psychological models that may be used as a framework for understanding health related behaviour. The two most predominant behaviour change models will be outlined in this section. In addition the social cognition model of the Theory of Planned Behaviour (TPB; Ajzen 1985) will be addressed. The TPB will be outlined first followed by a description of the Health Belief Model (HBM; Rosenstock, 1974) and lastly the Transtheoretical Model of Change (TTM; Prochaska & DiClemente, 1982) will be discussed.

The Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) was developed by Ajzen (1985) and represented a progression from the Theory of Reasoned Action (TRA; Ajzen & Fishbein, 1977). The TRA emphasised a central role for social cognitions in the form of subjective norms (the individual's beliefs about their social world) and included both beliefs and evaluations of these beliefs (both factors constituting the individual's attitudes). According to the TRA, people's intentions to perform a behaviour are predictable from their attitude towards the behaviour, their positive or negative evaluation of their performing the behaviour (e.g. “For me, using a condom would be good/bad”), and from their subjective norm, their beliefs about what significant others think that they should do (e.g. “Most people who are important to me think that I should/should not use a condom”). The TPB posits an additional variable which influences intention and which may also directly affect behaviour: perceived behavioural control refers to the person’s perceptions of the ease or
The Theory of Planned Behaviour (Ajzen, 1985)

- Beliefs about outcomes
- Evaluation of these outcomes
- Beliefs about important other's attitudes to behaviour
- Motivation to comply with others

Beliefs about outcomes → Attitude towards the behaviour → Behavioural intention → Behaviour

Subjective norm → Behavioural intention

Behavioural control

The difficulty of performing the behaviour (e.g. "Whether or not I use a condom is entirely under/outside my control") and is closely related to the notion of self-efficacy (Bandura, 1977), which is level of confidence an individual has that they can successfully carry out the behaviour.

The TPB has been used to assess a variety of health-related behaviours and found that intentions are good predictors of behaviours. Across 88 studies, Sheppard, Hartwick and Warshaw (1988) obtained average correlation of .53 between intention and behaviour,
while Randall and Wolff's (1994) review of 98 studies obtained an average correlation of .45. Furthermore research into condom use revealed that intentions to use condoms do predict condom use (Bryan, Aiken & West, 1997; Baker, Morrison, Carter & Verdon, 1996; Gerrard, Gibbon & Bushman, 1996). However while these findings are encouraging there are reasons to suspect that intentions may not predict condom use as well as intentions that predict other behaviours. Condom use is less an individual than a joint behaviour which requires the cooperation of a sexual partner (Kashima, Gallois & McCamish, 1993). Because sexual partners may have different intentions regarding condom use, intentions obtained from one partner may not be predictive of their joint behaviour. Condom use also requires resources (e.g. having a condom available) and opportunity (e.g. prospective sexual partner). Both of these factors are thought to attenuate the relationship between intentions and behaviour (Liska, 1984).

One of the major limitations of the TPB is that the postulated strong link between intention to use condoms and actual condom use is not strong (Fisher, Fisher & Rye, 1995; Boldero, Moore & Rosenthal, 1992; Gallois et al., 1992). One reason for this is that characteristics of a sexual encounter can influence whether or not an intention to use a condom is enacted during a specific sexual encounter. Boldero et al. (1992) found that intentions formed prior to and independent of a particular sexual encounter (prior intention) may change. This study revealed that a measure of 'intention in action'—the intention to use condoms at the time of having sex, was not the same as prior intention.
Furthermore the model may work relatively well in predicting behaviours that are premeditated and rationally governed (Ajzen & Fishbein, 1980) it is less successful in explaining actions in which contextual and emotional factors have a major role. In these cases, even if attitudes predict intentions, these intentions are often thwarted or discarded. A relevant example is the limited relationship between intention to use a condom and actual use, with situational factors such as sexual arousal and alcohol use frequently interfering with good intentions to engage in protected sex (Boldero et al., 1992).

The Health Belief Model

The Health Belief Model developed by Rosenstock in 1974 (HBM; Rosenstock, 1974) focuses on threat perception and behavioural evaluation. A diagrammatical representation of the model can be seen in Figure 2 (p. 17). A key element of the model is avoiding negative health consequences. The model assumes that individuals will take action to deal with ill-health conditions if they regard themselves as susceptible to the condition (perceived susceptibility) and if they believe the health condition to have potentially serious consequences (perceived severity). Moreover, individuals will take action if they believe that a course of action available to them would be beneficial in reducing either susceptibility to or the severity of the condition (perceived benefits); and if they believe that the anticipated barriers (costs) to taking action are outweighed by the benefits (perceived barriers).
In addition the model proposes that 'cues to action' can trigger health behaviour when appropriate beliefs are held. These cues can be individual's perceptions of symptoms, social influences and health education campaigns.

Another construct that was later added to the model was that of self-efficacy (Rosenstock, Strecher, & Becker, 1988). This is the conviction that one can successfully execute the behaviour required to produce the outcomes (Bandura, 1977).
The model can help explain a number of key issues surrounding young people's sexual health practices such as screening behaviour and condom use. An individual may see the risk of STIs as a threat with serious consequences. Therefore if the use of a condom or seeking STI screening is beneficial to the individual and the costs are relatively low then the behaviour will be carried out. The level of self-efficacy an individual has in executing this behaviour is important in order to promote the behaviour change.

However research that has applied the HBM to sexual health has found little evidence to support the model. McCusker, Stoddard, Zapka and Meyer (1989) adapted the HBM to predict condom use in homosexual men over a 12-month period. They reported that only perceived susceptibility was related to condom use and the components of the model were not good predictors of condom use. In addition they reported that the best predictor was previous risk behaviour. Other research suggests that HIV risk behaviour is self perpetuating and that other measures such as descriptive norms and contextual factors are more important predictors of HIV-preventative behaviour than HBM-specified variables (Aspinwall, Kemeny, Taylor, Schneider, & Dudley, 1991; Seigel, Mesagno, Chen, & Christ, 1989). Abraham and Sheeran (1994) examined the reasons why the HBM fails to predict condom use and found ceiling and floor effects. Regarding perceived severity, many people know that HIV is a serious disease, allowing a ceiling effect to occur where there is only a small amount of difference for this variable. Also, with regards to perceived susceptibility of HIV, a floor effect was created due to common feelings of low susceptibility and immunity despite awareness of the disease. Therefore these two central components of the HBM are unlikely to distinguish between condom users and non-users. Another criticism of the HBM is that it is a poor predictor of long term maintenance of behaviour, (such as practicing safe sex). In addition, the rational processing approach of the
HBM may be redundant with the high level of emotion that is involved in sex. Moreover the HBM does not clarify how beliefs “I am at risk” are translated into behaviour “I am using a condom”.

Schwarzer and Schwarzer (1992) further criticised the model for its static approach to health beliefs and suggests that within the HBM the beliefs are described as occurring simultaneously with no room for change, development or process. Additionally, Moatti, Beltzer, and Dab (1993) suggested that beliefs can be causes or consequences of behaviours making the assumption of step-by-step linear change questionable.

Moreover, as the prime motivation of the HBM is to avoid negative health behaviours this may mean that the model does not apply itself well to the uptake of screening; as screening may be perceived as a negative behaviour by the individual. Norman and Fitter (1989) examined health screening behaviour and found that perceived barriers are the greatest predictors of clinic attendance. Secondly components such as perceived knowledge may pose difficulties due to the uncertainty of the relationship between awareness and behaviour, e.g. knowing a lot of information about STIs may not be a good indicator of condom use or screening behaviour as other factors need to be considered.

Although the HBM has useful constructs and has been applied successfully to condom use, it would appear to have a number of pitfalls. It focuses on the rational processing of information; people attending a sexual health clinic may not be processing information in this way. Additionally there is the absence of a role for emotional factors such as fear and denial which may be key factors when examining sexual health behaviour. Furthermore Leventhal, Prochaska, & Hirschmann (1985) argued that health related behaviour is due to
the perception of symptoms rather than to the individual factors as suggested by the model. This is important when considering an infection like Chlamydia that may have no symptoms.

**The Transtheoretical Model of Change:**

Whereas the HBM is primarily concerned with the influences on people’s decisions to perform health behaviours the Transtheoretical Model of change (TTM; Prochaska & Diclemente, 1982) looks at how different stages effect the initiation and maintenance of health behaviour. The model has been applied to virtually any problem behaviour, including smoking, obesity and alcohol abuse (Marcus, Rakowski & Rossi, 1992; DiClemente et al., 1991). The model is composed of six Stages of Change (SOC): Precontemplation (not intending to make any changes), Contemplation (considering a small change), Preparation (making a small change), Action (actively engaging in new behaviour), Maintenance (sustaining the change over time) and finally Relapse (resumption of old behaviours). The TTM suggests that, although people realise they need to make changes in their life, they do it in several small stages instead of one major life change.

During these stages the person thinks about the problem, considers what to do, and decides whether or not to take action. These stages do not always occur in a linear fashion but the theory describes behaviour change as dynamic and not ‘all or nothing’. For example, an individual may move to the Preparation stage and then back to the Contemplation stage several times before progressing to the Action stage.
Furthermore they may slip back to the Contemplation stage over time or even to the Relapse stage after a period of time in the Maintenance stage.

Another construct of the model is Decisional Balance, which refers to how an individual weighs up the pros and cons of a particular behaviour. In particular at different Stages of Change the individual will focus on either the costs of a particular behaviour or the benefits of a particular behaviour. Studies have shown that the pros and cons of changing a behaviour intersect before the stage of action at which the individual adopts or changes the behaviour (Prochaska & Velicer, 1997).
As with the HBM the TTM is usually examined in conjunction with an individual’s self-efficacy. Here the construct represents the situation specific confidence that people have that they can cope with high-risk situations without relapsing to their risk behaviour, e.g. using a condom when an individual feels they are at risk of contracting an STI. The level of Self-efficacy has shown to increase across the Stages of Change as an individual adopts or changes a given behaviour (Grimley, Prochaska, Velicer, & Prochaska, 1995; Grimley, Riley, Bellis, & Prochaska, 1993).

Finally, the Processes of Change are useful strategies that people use to aid behaviour change and progress through the stages. These are split into experiential processes and behavioural processes (see Appendix 1, Table 1.1). Experiential processes involve thinking and evaluating and behavioural processes involve action. For example, an experiential process such as “Consciousness Raising” involves increasing information about oneself and the problem therefore an individual may recall information they have been given about condoms and risks of STIs. A behavioural process such as “Stimulus Control” involves restructuring ones environment so that problem stimuli are less likely to occur, an example of this could be having condoms readily available to the individual. A key assumption of the TTM is that different Processes of Change are used in different Stages of Change, usually experiential in the early stages and behavioural in the later stages. The relevance of these components differs for individuals at different Stages of Change and therefore offers the potential for stage-tailored interventions (Prochaska, DiClemente, Norcross, & Goldfried, 1992). That is, providing behaviour change programmes that match the stage of change that people are in rather than expecting individuals to match action-oriented programmes (Grimley et al, 1995).
By using this approach, prevention programmes may be applied to entire populations rather than small segments of groups that are ready to change. Health professionals can learn skills in how to engage someone at their Stage of Change and therefore be more successful in helping the individual facilitate change in behaviour.

The TTM has been applied to health protective behaviours such as condom use for HIV prevention in an effort to understand how individuals adopt and maintain current medical recommendations (Prochaska & Velicer, 1997). Wang (2004) used constructs from the TTM to assess condom use attitude and found that Self-efficacy was a predictor of condom use in main and other partners. He further suggested the need for the TTM as the theory based in developing educational programs and materials on condom use for the prevention of HIV/AIDS. Furthermore Gullette and Turner (2004) used the TTM to determine the relationship between Stages of Change and condom use. The results showed that those who perceived more advantages in using condoms were higher in the Stages of Change, and that by placing participants into various Stages of Change, stage specific interventions can be designed.

Hacker et al. (2005) used the TTM as a framework for an intervention strategy applied within a sexual health clinic. The hypothesis that the use of the model would enhance the clinic staff’s ability to move patients along the Stage of Change continuum was supported. Other research has seen brief interventions applying Stage of Change successfully promote condom use in HIV patients (Cabral et al., 1996; Kiamb et al., 1988)

As highlighted previously research into sexual health has mainly focused on HIV and condom use and research that has applied the TTM has also done the same. Despite this,
two recent studies have applied the TTM to assess screening behaviour for Chlamydia. Banikarim et al. (2003) evaluated perceived readiness to adopt and maintain screening when at risk, the pros and cons to seeking screening and level of Self-efficacy for seeking screening in women attending a sexual health clinic. They found that 47% of participants reported to be in the Action or Maintenance Stage of Change for seeking screening with a change of partner compared to 26% in the Action/Maintenance stage when they have had unprotected sex with their main partner. Moreover, Stages of Change for screening after unprotected sex with main partner was not associated with history and level of self-perceived risk of acquiring an STI from having unprotected sex with main partner. Generally, people were more likely to seek STI screening when they changed partners rather than when they had unprotected sex with main partner, suggesting some inference at levels of trust. The study provided further support for Decisional Balance and Self-efficacy in relation to individual’s readiness to change. A higher level of Self-efficacy in seeking screening was associated with later Stages of Change. Moreover there was a change in the pros and cons associated with adopting screening behaviour the further an individual moved along the Stages of Change e.g. advantages of adopting screening outweighed the disadvantages for adopting screening in the maintenance stage. Interestingly though this study found an absence in the significant decrease in cons across the Stages of Change, highlighting that in relation to sexual health the cons exist regardless of the Stage of Change. The researchers concluded that a less pronounced decrease in the cons across Stage of Change was associated with adopting rather than changing a particular behaviour.

Furthermore, Chacko, Von Sternberg and Velasquez (2004) used the TTM to measure Processes of Change i.e. the strategies that facilitate seeking Gonorrhoea and Chlamydia screening. They found that greater use of experiential and behavioural processes were
associated with the Action/Maintenance stages for seeking STI screening. This means that screening interventions would need to promote both experiential and behavioural processes. These studies provide useful information on the constructs of the TTM and seeking screening for asymptomatic STIs such as Chlamydia which will help build interventions that prevent STIs from spreading. However, both studies are not without limitation, the cross-sectional design of the studies limits inferences about causality. Furthermore, the Stage of Change reported by participants may have been impacted by the individual’s attendance at the sexual health clinic when Stage of Change was being assessed.

Despite the supportive evidence that the TTM is useful in understanding adopting and maintaining health protective behaviours it is not without criticism. Weinstein, Rothman and Sutton (1998) outlined the following points; it is difficult to determine whether behaviour change occurs according to stages or along a continuum and that the absence of qualitative differences between stages could be due to the absence of stages or because the stages have not been correctly assessed and identified. Moreover, the changes between stages may happen so quickly that the stages are unimportant. However even when the flaws of the model are taken into account, there is still evidence to suggest that the model can be useful in widening understanding about behaviour change in relation to sexual health and is the most appropriate model currently developed for this area.

In conclusion, the use of the TTM as a psychological model to help understand health related behaviour has many advantages. Using this model not only allows us to understand people’s behaviour and decision making process around sexual health it allows us to take this information and devise intervention that will help promote change. The model is central to motivational interviewing, a client-centred brief psychological intervention
developed by Miller & Rollnick (1991, 2002). This technique can help address sensitive and potentially difficult issues about personal health related behaviour. Furthermore unlike some aspects of the HBM and the TPB, the TTM is realistic in its approach, it acknowledges that people can be at different stages, and that stages can change quickly or slowly depending on other variables. The model also allows for relapse, which is an important part of either adopting or stopping a particular behaviour.
As previously highlighted in order to control the spread of Chlamydia two methods of prevention must be employed by the individual, that is primary prevention, the use of condoms but also more importantly the use of secondary prevention such as attending for STI screening. However increasing the uptake of screening behaviour may be a difficult task for a number of reasons.

Firstly there are themes based around the perception and experience of the sexual health clinic itself and secondly issues pertinent to the individual may prevent screening behaviour from being adopted.

Low et al. (2003) found that sexual health clinics were perceived to be not “young person friendly” and that encouraging otherwise healthy people to attend sexual health clinics for check ups was unsuccessful even when financial incentives were offered. They concluded this may be because waiting times are long and many believe services are not geared towards people’s needs. In addition, the process of going to a sexual health clinic and having an invasive examination followed by giving an extensive account of your sexual history may be a deterrent for many young people.

Duncan, Hart, Scoular, and Bigrigg (2001) investigated the psychosocial impact of a diagnosis of Chlamydia and found that themes of stigma were present. Most women had not perceived STIs as personally relevant, and held stereotypical beliefs about who was “at risk” from STI. In addition, STIs were associated with notions of contamination and delinquency, a phenomena also seen in Padgett’s (2002) study of folk constructions of
syphilis. This negative stereotype of who was “at risk” from STI also affected the expectations of the sexual health clinic and initial reactions to referral were generally negative.

Issues around embarrassment and willingness to access services are applicable to sexual health clinics (Dixon-Woods et al., 2001), as people may delay seeking treatment for STIs out of embarrassment and hope the problem will just go away (Hook et al., 1997; Maw, Reitano, & Roy, 1998). Some individuals may chose to avoid potentially bad news (Conley, Taylor, Kemeny, Cole, & Visscher, 1999) and avoid testing to manage feelings of guilt or shame (Brashers, 2001). Furthermore there is evidence to suggest that in services where self referral is the main route of access an ‘approach-avoidant’ stance may be taken by some people, not only to manage guilt and shame but also to manage anxiety. Therefore having information about anxiety and Stage of Change, health professionals may be able to identify those individuals who will not return.

Other deterrents to STI screening may be anxiety around partner notification and contact tracing. Again Duncan et al. (2001) found that women were anxious about informing their current partner about their infection. Disclosure was associated with fears of negative reactions, feelings of guilt and regret. Moreover informing a previous partner was expressed as especially difficult especially if the relationship had ended acrimoniously.

Furthermore Mills, Daker-White, Graham, & Campbell (2006) looked at both men and women’s experiences of being tested for Chlamydia within a population screening pilot and found similar themes such as discomfort, stigma and anxiety. Anxiety was found at all stages of the screening process. The most anxiety arose from a positive test result;
individuals were shocked and upset initially regardless of whether the result was anticipated or not. Again, people found the most difficult part was having to inform past and current partners. In addition people were worried about their fertility status and about whether they had other undetected STIs. The authors concluded that more efforts are needed to guard against potential damage that screening for Chlamydia may evoke in individuals.

One prominent theme that continues to re-emerge from the literature in screening is anxiety. In other settings there is clear and consistent evidence of significant levels of anxiety amongst individuals attending medical or surgical services for treatment, assessment and investigations (Edelmann, 1992). Screening is reported to increase anxiety and self perceived health status in patients attending for screening for cervical cancer and hypertension (Nathoo, 1988; Haynes, Sackett, Taylor, Gibson, & Johnson, 1978; Johnstone, Gibson, Haynes, Taylor, & Sieurella, 1984).

Holgate and Longman (1998) suggested that anxiety was also raised by the physical health implications of the diagnosis of Chlamydia as well as the social implications. Furthermore, those receiving negative test results may interpret this as a “certificate of health” and are less likely to adopt healthy behaviour (Tymstra & Bieleman, 1987). There may also be differences in levels of anxiety in patients who have been given a definite diagnosis and those who will need to wait before initial tests can confirm possible diagnoses. Kincey, Mandal and Sinha (2003) investigated the levels of state anxiety in patients attending a sexual health clinic for initial assessment of the presence or absence of an STI. They found that there was a significant level of state anxiety identified at initial assessment. These findings suggest a clinical need to monitor and respond to patients anxieties because high levels of state anxiety are known to have potentially negative effects on understanding.
memory (Cohen & Java, 1995) and hence possible adherence in clinical settings (Ley, 1988). However they did not report a difference in the levels of anxiety between the two patient groups i.e. those who has been diagnosed and those who had to wait.

If there is evidence to suggest that an individual's experience may be different depending on whether they receive a diagnosis or not, a similar phenomena may be found between patients who have symptoms and those who do not have symptoms, e.g. those who have symptoms may have already made some form of self-diagnosis compared to those who do not have any symptoms. Research that has looked at asymptomatic individuals with HSV-2 (virus that causes genital herpes) has shown many different emotional responses including fear, distress and denial (Smith et al., 2000). People mainly felt confused as they did not experience any symptoms and distress because they did not know when the virus was acquired. Moreover people were found to be anxious about telling their partner and this was associated with a fear of being rejected. The “silent” quality of this STI shares some similarities with Chlamydia.

Summary

It would seem from the research that there are significant levels of anxiety surrounding having an STI, going to a clinic for testing and then contacting sexual partners. There is also an argument that anxiety will differ depending on whether a patient has received a definite diagnosis. This may also be relevant for those who do not have symptoms and those who do. Furthermore it is evident that future research should investigate the nature of anxiety and its impact on adherence and compliance with the recommendations made in the
clinic. That is whether high levels of anxiety impact on the cognitive processes an individual uses to make decisions about sexual health behaviours. By investigating anxiety further, links between anxiety and Stages of Change can be made and used to predict future patient behaviour.
RATIONALE

Providing further psychological understanding could be useful in tackling increasing rates in STIs. In particular, providing further insight into health behaviour change and Chlamydia can help inform government policy about the most effective way to target this problem. Past research in sexual health has predominantly devoted itself to investigating the relationship between HIV and condom use. As outlined previously there is a strong argument for the need to increase screening behaviour in preventing Chlamydial infection, flagging a need for further research into this issue. No research to date has tried to establish a link between Stages of Change, anxiety in relation to Chlamydia.

Qualitative research has focussed on an individuals thoughts and feelings around a diagnosis of Chlamydia but has not addressed specific behaviour change. In addition research that has applied the TTM has focussed solely on primary prevention methods and has not examined the link between anxiety and STI screening.

This piece of research will investigate whether an individuals stage of readiness to change sexual health behaviours such as using condoms and seeking STI screening are influenced by the process of attending a sexual health clinic for a Chlamydia test. Levels of state anxiety will also be investigated in the same way. The study will also investigate whether anxiety influences progression onto further Stage of Change. In addition, the study will consider whether there is a link between levels of anxiety and Stage of Change sexual health behaviours and returning for treatment. Furthermore the research will investigate the effects of presenting with symptoms at initial attendance in the clinic to see if this
influences positive sexual health behaviour\(^1\), level of anxiety and whether the individual is likely to return to the clinic.

**Applying the TTM**

The Transtheoretical Model of Change will be the theoretical model used within this study as it allows for both primary and secondary prevention methods to be explored. As already stated both using condoms and seeking STI screening when at risk are important behaviours that an individual should consider in relation to Chlamydia and other STIs. Furthermore it has been applied to other sexual health studies with good empirical results.

The different components of the model, such as Decisional Balance and Self-efficacy, will lend to a comprehensive review of behaviour change within this context. It allows for relapse in the adoption of a new behaviour, as decision making on sexual health behaviours are often complex with a number of factors influencing the decision, relapse may often be a part of an individuals sexual health story.

Finally as the model lends itself to quantitative research design a questionnaire was created using the basic constructs of the model. This was devised from past literature on the topics of TTM and sexual health. (see Method)

\(^1\) The term positive sexual health behaviour refers to a) using condoms and b) seeking STI screening.
Conclusion

In conclusion, the research that has tried to establish links and associations about sexual behaviour has been limited and mainly focused on HIV and condom use. There is little research looking at Stages of Change for condom use and screening behaviour in relation to asymptomatic STIs like Chlamydia within a sexual health clinic setting. Despite there being some research into anxiety and individuals attending for a Chlamydia screen there has been no research investigating the link between anxiety and behaviour change. Moreover, little research has employed a longitudinal research design to investigate long-term effects of Stages of Change in relation to sexual health, anxiety and screening.
**RESEARCH AIM**

The aim of this research is to examine an individual’s stage of readiness to change for positive sexual health behaviours, (i.e. using condoms and seeking STI screening) and level of state anxiety at different times during attendance at a sexual health clinic (i.e. before examination, after treatment and at 6 week follow up). The research will also investigate whether there is a relationship between level of anxiety and stage of change (SOC) for positive sexual health behaviours depending on whether a patient is asymptomatic or not. Furthermore the research aims to find out if level of anxiety and Stage of Change for positive sexual health behaviours predict whether patients return back to the clinic or not.

**Research Questions**

1. Is there a difference in SOC for positive sexual health behaviour in patients who are asymptomatic compared with patients who are symptomatic?

2. Is there a difference in levels of anxiety in patients who are asymptomatic compared with patients who are symptomatic?

3. Does level of anxiety at initial attendance predict SOC for positive sexual health behaviour?

4. Does an individual's SOC for positive sexual health behaviour and anxiety at initial attendance predict not coming back for treatment?
5. Does SOC for positive sexual health behaviour change after attending the sexual health clinic?

6. Does level of anxiety change after attending the sexual health clinic?

7. Does level of anxiety at initial attendance predict SOC for positive sexual health behaviour at 6 week follow up?
METHOD

Design

This study employed a longitudinal repeated measures design. Participants received a questionnaire at three different time points during the study. These were; at initial examination, after treatment and at six week follow up.

The questionnaires were devised from the literature on sexual health and the Transtheoretical Model (TTM: Prochaska & DiClemente, 1982) and included the six item short-form of the state scale of the Spielberger State-Trait Anxiety Inventory (STAI; Marteau & Bekker 1992). The questionnaires were designed to assess participants’ cognitive Stage of Change for positive sexual health behaviours (condom use and STI screening behaviour), Decisional Balance and Self-efficacy for these behaviours and their level of anxiety.

Setting

Participants were recruited from two sexual health clinics in a predominantly urban area in the North of England. Both clinics are part of the sexual healthcare partnership, which is hosted by the local primary care trust. This service offers a free, confidential, advice, support and treatment service on sexual health issues including contraception, termination advice, Chlamydia testing across the region. The clinics provide a walk-in service for all
ages, as well as clinic appointments. Referral into the service can be done by a health professional such as a GP, Health Visitor or can be made by the patient themselves.

Patients who attend for a sexual health screen will usually meet with a member of the nursing staff who will take a brief sexual history, and assign the patient for the appropriate consultation, examination or treatment. If necessary the patient will then be seen by the clinic doctor or another health professional; they will then ask questions on current sexual practices, take a brief sexual history and determine what tests the individual needs carrying out. The health care professional will carry out the required tests. All patients entering a walk-in clinic will receive a Chlamydia test this involves either a urinary sample or taking a swab from the penis or vagina.

Due to the nature of the service, people are often treated on the same day. This means they will not receive a diagnosis before they are treated. As the service has an increasing number of patients failing to return for treatment it is found to be the most efficient method of practice to treat people in this manner. People who attend without symptoms are usually examined and sent away to wait for their results. When the results have been analysed those patients who do not have an STI do not need to return to the clinic. The clinic works on the policy that “no news is good news” therefore if the patient is contacted by the health professionals from the clinic they will have to return for diagnosis/treatment. Those who do not hear from the clinic can assume their tests results were clear.

The local sexual health service has approximately 2,500 patients attending per year for sexual health screens. Current figures estimate that one third of these patients fail to return for treatment or follow up advice.
Participants

118 participants were recruited on a volunteer basis from amongst the attendees of the sexual health clinic drop in service and “Consultant led” clinics over a 6-month period, running from October 2006-April 2007. All participants were attending the clinic for a sexual health screen, which includes a test for Chlamydia, either for the first time or for the first visit of a new check up.

Individuals were excluded if they were: under the age of 18, not able to read English or had already taken part in the study.

The group of participants consisted of 64 males and 49 females, ranging in ages from 18-48, mean age of 25.21. Table 1 shows the response rates at each Phase of the study. At Phase 1, 47 patients refused to take part. There were 17 patients that did not meet the inclusion criteria and were not recruited into the study, of this group, 10 were under the age of 18, 6 did not understand English and one was identified as having mental health difficulties by the charge nurse. Furthermore, of those 118 recruited 41 (34.7%) people who were required to return for treatment/follow up failed to return to the clinic.
Table 1

*Recruitment Figures for all Three Phases of the Study.*

<table>
<thead>
<tr>
<th>Phase</th>
<th>Agreed</th>
<th>Refused</th>
<th>Withdrew</th>
<th>Response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1 (before</td>
<td></td>
<td></td>
<td></td>
<td>70% (118/169)</td>
</tr>
<tr>
<td>examination)</td>
<td>118</td>
<td>47</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Phase 2 (after treatment)</td>
<td>14</td>
<td>85</td>
<td></td>
<td>14%* (14/99)</td>
</tr>
<tr>
<td>Phase 3 (6 week follow up)</td>
<td>17</td>
<td>101</td>
<td></td>
<td>14% (17/118)</td>
</tr>
</tbody>
</table>

*19 Patients were identified as not needing to return to clinic e.g. clear result

At Phase 1 out of a total of 169 patients approached 118 agreed to take part. The researcher was unable to ascertain the reasons for non-participation at this Phase of the study. At Phase 2 out of the 118 patients recruited only 99 of these people were required to return to the clinic for follow up treatment however 85 patients refused to take part in this phase of the study. Finally at Phase 3, 17 out the original 118 patients recruited took part and 101 patients failed to return their questionnaire. Again for both Phase 2 and 3 the researcher was unable to identify the reasons for the participant’s refusal apart from the participant did not wish to continue with the research.

A high attrition rate was anticipated from this sample as past longitudinal research in sexual health had shown response rates ranging from 55-87% at three month follow up (Parkes et al., 2005; des Rivières-Pigeon et al., 2004; Paxton, 2002; Robinson et al., 2002; Rosser et
al., 2002; Gielen et al., 2001; van Valkengoed et al., 2002; Branson et al., 1998; Evers et al., 1998; Kiamb et al., 1998 & O’Leary et al., 1998). It was deemed that the researcher needed a fairly large sample size at Phase 1 to allow for a potentially high incidence of participant drop-out. A power calculation was not included at this stage as it was felt that there were too many variables to give an accurate estimate of a sample size that would provide enough power to detect if an effect was present. The researcher therefore originally aimed to recruit around 200 participants for this study.

Measures

**Questionnaire Pack**

Each questionnaire pack consisted of a sexual health questionnaire and the six-item short-form of the state scale of the Spielberger State-Trait Anxiety Inventory (STAI) developed by Marteau and Bekker (1992). This pack was given to the participant at 3 different phases of the clinic process (for full questionnaire pack see Appendix 5).

**Development of Sexual Health Questionnaire**

The sexual health questionnaire used in the study was devised from the literature on sexual health and the TTM and adapted to fit the current study. The literature included the following sources: Cancer Prevention Research Centre Website (2005); Sagrestano, Rogers, Kittleson, & Sarvela, (2005); Chacko et al. (2004); Banikarim et al. (2003);

The questionnaire consisted of a number of sections; brief demographics, brief sexual history, questions designed to identify the constructs of the TTM (e.g. SOC, Decisional Balance and Self-efficacy) for both using condoms and seeking STI screening.

Section A consisted of demographics and a brief sexual history and was the only section where the content changed between different phases of the clinic process. It was deemed inappropriate to replicate information therefore this section was adapted to fit the phase of the clinic process where different information would be more relevant. As well as adapting this section from the past sexual health literature a number of consultations with the clinic’s Health Adviser and Consultant physician in GU Medicine were undertaken to determine the relevance of the questions in this section, such as determining the “STI history” and “contraceptive” categories. The content of this section was selected by examining the content of past research studies in sexual health and deciding if this was appropriate for the current study.

Sections B and C focussed on Stages of Change for condom use for casual and regular partners, respectively. Past literature on condom use suggests that condoms are used inconsistently depending on relationship status and/or alternative methods of birth control, therefore it felt necessary to make a distinction between partner status (Grimley et al.,
Individuals that are in a stable relationship may not perceive themselves to be at substantial risk of contracting an STI and therefore using condoms may not be essential in protecting their sexual health. Furthermore if an alternative method of birth control is utilised condoms may not even be considered (Critelli & Suire, 1998; Rosenthal et al., 1994; Banikarim et al., 2003; Cushman et al., 1998; Stark et al., 1998; Roye, 1999; Pilchta et al., 1992, Hacker et al., 2005). It was felt that this may be a confounding factor in the data analysis which needed to be taken into account. For an individual who is in a relationship may be in the Precontemplation stage for using a condom however if that relationship ended they may proceed to the Action phase for using a condom with a new partner. The algorithm used to determine which stage of change the individual was in was made up of a set of questions. Each question has a temporal element to it, the first three stages are defined by behavioural intention, the latter are defined by the duration of the behaviour, this helps identify which Stage of Change the individual is likely to be in, e.g. if the individual has been using a condom every time they had sex for the past six months than they would be in the Maintenance stage.

Section D consisted of the Stages of Change for seeking STI screening. The algorithm for condom use and seeking STI screening was adapted from (Sagrestano et al., 2005; Cancer Prevention Research Centre Website, 2005). This allowed the patient to be directed to one answer that would indicate their most likely Stage of Change.

Sections E and F measured Decisional Balance for both condom use and STI screening. These measures were adapted from the literature (Grimley et al., 1993; Grimley et al., 1995; Grimley et al., 1996; Banikarim et al., 2003). They based item content on several
areas that are meaningful to the assessment of the pros and cons of condom use. These areas were: protection from pregnancy and/or diseases, partners reaction to contraceptive use, personal responsibility, ease of use, availability, cost, perceived effectiveness, hassles, decreased sexual enjoyment, anticipation of a partners disapproval and having to rely on partners cooperation. The most relevant statements were picked out from these studies and adapted to fit the current study.

Due to the lack of literature on TTM and seeking STI screening, the ten statements to illustrate the pros and cons of screening where adapted from the Decisional Balance literature with condom use and general themes that have come from qualitative research on attending a sexual health clinic (Duncan et al., 2001; Mills et al., 2006). These themes included feeling embarrassed about attending a sexual health clinic, worrying about being seen attending a sexual health clinic and that getting screened is time-consuming.

These statements were tested on a small peer review sample of 10 trainee clinical psychologists. A simple questionnaire was devised consisting of relationship status 10 statements highlighting the pros and cons of condom used and 23 statements highlighting the pros and cons for seeking STI screening (see Appendix 2). The purpose of the questionnaire was to investigate whether the Decisional Balance component needed to be split into partner types and to select the most relevant statements for seeking STI screening. There were no differences found in the ratings between those who were in a relationship and those who were not. Therefore, it was deemed inappropriate to split this category down further and make the questionnaire any lengthier. The most relevant statements about
seeking STI screening were selected by assigning each option on the Likert scale with a score. The top 5 statements in each category became the final 10 statements used in the final draft of these sections.

Section G measured the amount of Self-efficacy an individual has when using condoms and seeking STI screening. Two scenarios were given, one depicting someone that is about to engage in sexual intercourse and one depicting someone that has engaged in sexual intercourse and now believes that they may be at risk. The first scenario relates to how sure the individual would be to use a condom in this situation the second to how sure an individual would be to seek screening in this situation. The scenarios were adapted from the literature (Banikarim et al., 2003). It was felt that a short statement that would sum a situation would be more appropriate given the length of the questionnaire.

*The six Item Short-Form of the State Scale of the Spielberger State-Trait Anxiety Inventory (STAI)*

The questionnaire also included the six-item short-form of the state scale of the Spielberger State-Trait Anxiety Inventory (STAI) developed by Marteau and Bekker (1992). Scores can be pro-rated to allow comparison with normative data for the full-length version of the STAI (Spielberger, Gorsuch, & Lushene, 1970).

The state scale measures how one is feeling at the moment, this was useful in order to give a measure of current anxiety the participant was experiencing. This measure consists of six
statements about “how you feel right now, at this moment”. The participant was required to circle one of four validating statements; “not at all/somewhat/moderately so/very much so”.

The short form version of the state scale of the STAI was tested for reliability and validity. Internal reliability was assessed and the reliability coefficient for the six item was .82 compared with the 20 item (α = .91) and 4 item (α = .77), Marteau and Bekker (1992).

Concurrent validity was assessed to examine the extent to which the scores on the short form are similar to those obtained on the full form. Three groups were used; medical students, student nurses and pregnant women. There were no differences in the mean scores obtained using the full form of the STAI and those obtained using the prorated six-item form for any of the three groups.

The six item short form of the state scale of the Spielberger Stat-Trait Anxiety Inventory was selected for its brevity. In addition using a short form is likely to maximise response rates and minimise the numeric of errors and unanswered items, thus improving the validity and generalisability of the findings.

The scores on the full scale STAI range from 20-80. The norms of the original STAI were based on working adults, college students, high school students and military recruits and scores ranged from 35 - 47. However, the score of 47 was for female military recruits and deemed to be a little high due to stress and demands. Norms based on neuropsychiatric populations, general medical and surgical patients and prison inmates ranged from 40-54. Thus anything over 40 would be deemed to be clinically significant level of anxiety. Another study by de Jong-Potjer et al. (2006) suggested a score of over 42 would be
clinically significant and Maissi et al. (2004) suggested a score of above 49 was found in patients with a diagnosis of anxiety disorder. Taking this past research into account, for the purpose of this study the classification of anxiety scores will be as follows: 20-39 Normal, 40-49 Borderline, 50-80 Clinically Significant.

Pilot and Consultations

The adapted questionnaire was reviewed by the staff working within the sexual health clinic including the Department Manager, Consultant Physician, Health Adviser and other nursing staff, and the researcher’s peers from the Clinical Psychology Department in order to ensure the questionnaire had face validity. In addition, the questionnaire was piloted in the clinic with a small sample of clinic patients.

The pilot took place in one of the clinics in October 2006. Each participant was asked to look at the questionnaire and complete a question and answer sheet (see Appendix 2). These questions involved asking about the layout and the content of the questionnaire. The pilot sample consisted of 6 males and 5 females aged from 18-53 all seeking a STI test on that day.

There were a number of issues raised from the pilot that were addressed before the actual data collection commenced. It was found that the partner definitions on the questionnaire were confusing to some participants these were altered to make them clear. It was also noted that the guidelines about how to complete the questionnaire needed to be made clearer in terms of answering the questions in relation to how the person is feeling at that
moment in time. Further alterations included the addition of graphics to visually aid the
participant with directions as they completed each section.

Procedure

Permission for the study was sought and gained from the Local Research Ethics
Committee. Trust approval was also granted (Appendix 3).

Prior to data collection discussions about the study were held with key staff. Information
posters about the study were placed in the clinic waiting areas to remind patients about the
study (see Appendix 4).

Each participant was required to complete a questionnaire pack before they were examined,
after they had been treated and at six week follow up. The completion of the second
questionnaire pack after treatment varied between those who were treated on the same day
and those who were treated a week to ten days later. The estimated figures for people that
are treated on the same day are approximately two thirds of the clinic’s population.
Generally, these patients will not receive an actual diagnosis of Chlamydia, instead they are
treated with a course of antibiotics for a “non-specific infection”. In addition patients who
did not need treatment and did not return to the clinic were unable to complete this part of
the study. Each participant completed the third questionnaire pack six weeks after their
initial attendance at the clinic. This pack was given to the participant when they first
attended the clinic to take away and post back. (See Fig. 4 for flow diagram of procedure)
On arrival at the clinic each patient who was eligible for the study was informed by the receptionist that the research was taking place and asked if they would like to take part. If the patient agreed the receptionist would then direct them to where the researcher was based.
Flow-Diagram of Procedure

**INITIAL ATTENDANCE PHASE 1**
- Receptionist informs patient about study and asks for permission to be approached by researcher.
- Researcher approaches patient in clinic waiting room.
- Patient Information Sheet given, time for questions to be answered, Consent Form signed.
- Patient's clinic number and contact telephone number taken (if permission granted)
- Questionnaire 1 (with blank envelope) and Questionnaire 3 (inside S.A.E) given to patient.
- Patient instructed to complete Questionnaire 1 now whilst they are waiting and to take Questionnaire 3 away with them, to complete and return it on the date written on the envelope.
- Patient returns Questionnaire 1 (now inside blank envelope) to researcher.
- Go in for examination.

**OUTCOME OF PHASE 1**

<table>
<thead>
<tr>
<th>Asymptomatic: Sent home</th>
<th>Asymptomatic: Sent home</th>
<th>Asymptomatic: Suspected infection (Option 1)</th>
<th>Symptomatic: Suspected Infection (Option 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week later: Phone for results: No infection</td>
<td>Week later: Phone for results: Infection Asked to re-return to clinic for treatment (Option 2)</td>
<td></td>
<td>Option 1: Same Day Sent to Health Adviser and are treated for probable STI. Option 2: Week later Sent to Health Adviser and treated for known STI.</td>
</tr>
</tbody>
</table>

**AFTER TREATMENT-PHASE 2**
- Patient given Questionnaire 2 after appointment with Health Adviser
- Option 1: Same day
  Patient is asked by the HA to return to the researcher before they leave the clinic.
- Option 2: Week later
  HA identifies patients who are asked to return to the clinic for treatment. Clinic numbers are checked with researcher lists for participants.
- Researcher is informed when participants are returning. If researcher available same procedure as above.

**PHASE 3-FOLLOW UP (6 WEEKS LATER)**
- Patient to complete and return Questionnaire 3
- Patient contacted (if requested)
- If patient has lost, misplaced Questionnaire 3 and requests another to be sent: Patient's name and address written straight onto an envelope and sent Questionnaire 3 and S.A.E for its return.
The researcher was situated either in a room or a private area depending on clinic site; here the researcher was able to recruit the participant. Each participant was provided with an information sheet outlining the study; what was involved and what they would be required to do (see Appendix 5). The participant was given information about how to contact the researcher to obtain the results of the study or ask any further questions about the study. They were then given the opportunity to approach the researcher with any questions that they might have finally, they were able to volunteer for the study by completing the consent form. The participant was asked if they consented to leaving their contact number for the third part of the study.

Once the participant agreed to take part they were asked for their clinic number. This was then assigned to each questionnaire pack that they would be asked to complete. The participant was then given the first questionnaire pack to complete whilst they were waiting to be examined by the clinic staff. The participant was also given the third questionnaire pack in a stamped addressed envelope to take away from the clinic and to complete in six weeks. Instructions to do so were written on the back of the envelope along with the date for completing and returning the form.

The patient was offered a choice as to whether they would like to be reminded in six weeks to return the questionnaire. If they agreed to this, the researcher took a contact number from the patient.

Once the participant was recruited they were sent to the waiting area to complete the first questionnaire pack, which was then returned to the researcher before they left the clinic.
Meanwhile the second questionnaire pack was placed into the clinic notes ready to be given the participant to complete after they had been treated for an STI (either same day or week later). The health professional, usually the Health Adviser, would ask the patient to complete the second questionnaire pack before they left the clinic and return it back to the researcher.

The third questionnaire pack was completed by the participants six weeks after their first visit to the clinic and posted back to the researcher. For those participants who had requested to be reminded to complete the third questionnaire pack, the researcher telephoned them on this date. The participants who had misplaced their questionnaire pack and wished to receive another were sent another pack through the post, here the name and address of the participant was written straight onto an envelope and posted out to the participant. In order to maintain anonymity the name and address were not recorded anywhere else.

**Ethical Issues**

Anyone who did not wish to be included in the study or withdraw at any time was assured their treatment at the clinic would not be effected.

A member of the clinic staff was on hand to deal with any participants who became distressed as a result of taking part in this study. However no distress was evident or reported during the study.
In order to protect patient anonymity Questionnaire Pack 3 was given to the patient at Phase 1 for them to post. To ensure strict anonymity patients names and addresses were not taken at any point during the procedure. This is parallel to the standard protocol within the clinic. As the clinic offers a strictly confidential service patients are only ever required to give an individual clinic number and date of birth. Therefore, the third questionnaire pack was given to the participant at Phase 1 of the study to take away with them and post back. In addition the patient was given a choice about whether they wish to be contacted.

Statistics and Analyses Proposed

Prior to the analysis a number of procedures were carried out with the raw data. All variables were examined for accuracy of data entry, missing values and distribution. As the questionnaire was designed to cover a wide range of choices for particular categories, there was often missing data recorded. Data were counted as missing if responses to the questions were incomplete or invalid. Due to the ordinal nature of some of the variables it was not always possible to create an average and replace missing variables. Therefore where possible the missing values are outlined in the results section.

As outlined previously the six item short version of the state scale of the STAI can be pro-rated to give a score that is equivalent to the full version. This was calculated prior to the analysis and entered into SPSS. All subsequent analyses were carried out with the pro-rated scores of the anxiety measure.
The questionnaire gave the participant the opportunity to complete Stage of Change for condoms if they were in a regular relationship, casual relationship or both. Those participants who completed both regular and casual items were excluded from the data unless they were in the same Stage of Change for both partners. Initially it was felt that the inclusion of “both” categories would make the questionnaire easier to complete for those who had both types of relationships. In addition, it was unknown how many participants would complete the questionnaire for both types of relationship therefore the researcher was keen to allow for the opportunity for this potential data to be collected. However within this sample only three participants recruited reported to be in both types of relationships thus it was felt that this information was irrelevant to the present study and would begin to complicate the analysis. An overall category for Stage of Change for condom use combining regular and causal relationships was created and named “general condom use”.

In order to carry out some of the analysis some variables were recoded to combine groups of variables. The purpose of this was to create variables with larger numbers of data so the distribution of data was even across groups of comparison. However it must be noted that this was often difficult to achieve even when variables had been recoded. Variables that were recoded were; worry about STIs, Decisional Balance, Self-efficacy and Stage of Change for research question 7. These procedures will be outlined in the results section.

Prior to running a statistical test the variables were checked for normality (Kolmogorov-Smirnov) to determine whether the analysis of this question would be a nonparametric test or a parametric test. The statistical test used for each question will be outlined in the results.
Statistical analysis of the data was undertaken using Statistical Package for the Social Sciences for Windows version 14.0 (SPSS). An initial descriptive analysis of the data was undertaken, followed by employment of inferential statistical procedures. The research questions were analysed with a number of different statistical tests.

To examine if there was a relationship between Stages of Change and whether the patient had symptoms or not, chi square test of association was used. This was also used to examine if there was a relationship between Stages of Change at different phases of the study. An independent t-test was used to investigate whether there was a difference in levels of anxiety between patients that are symptomatic and those that are asymptomatic. To investigate whether there was a change in anxiety between different phases of the clinic a Wilcoxon signed-ranks test was employed. Ordinal regression was used to find out if anxiety at initial attendance predicted stage of change at initial attendance. Logistic regression was employed to investigate whether stage of change and anxiety predicted whether an individual would not return for treatment. Finally, regressional modelling was proposed as the method of analysis to explore whether anxiety at initial attendance influenced stage of change at 6 week follow up.
RESULTS

Overview

The results chapter addresses each research question in turn and is divided into four sections. The first section provides a detailed description of the characteristics of the patients attending the sexual health clinic, including their demographic details, brief sexual history and worry about STIs. The second section provides a description of the constructs of the TTM including Stages of Change, Decisional Balance and Self-efficacy and anxiety, including a post-hoc analysis of Decisional Balance and Self-efficacy components. The third section presents results of the research questions from the cross-sectional part of the study. The final section presents results from the short term longitudinal study, using repeated measures design, which examined responses made by the sample before examination, and six week follow up.
Section 1: Descriptive Analysis of Patients Attending the Sexual Health Clinic

Description of Patient Sample

The sample was obtained from two sexual health clinics in the local area (N = 20,98), data collected from both sites were compared and found to have no significant differences on sex, age, education, ethnicity, sexual orientation, relationship status, sexual history, STI history, worry about STIs, contraceptive use, Stages of Change and anxiety. (Appendix 6, Table 2.1). In total, descriptive information was gathered from 118 people attending two sexual health clinics for a sexual health screen which includes a test for Chlamydia. More males (N= 64, 54.2%) than females (N= 49, 41.5%)² comprised this sample. The combined average age was 25.21 (range 18- 48 years, SD =7.72 ). The majority of people attending the clinic were in a regular relationship (N = 70, 59.3%), the rest were either in a casual relationship (N = 41, 34.7%) or in a regular relationship but also had casual relationships (N = 3, 2.5%).³ For the majority of people this was their first visit to the clinic (N = 69, 58.5%), with (N = 47, 39.8%) having already attended the clinic before⁴.

² Missing values for sex: 5 (4.2%)
³ Missing values for relationship status: 4 (3.4%)
⁴ Missing values for having attended before: 2 (1.6%)
General Demographics

Table 2

<table>
<thead>
<tr>
<th>Education</th>
<th>Left school without any qualifications</th>
<th>Left school with G.C.S.E's</th>
<th>Left college with a-levels</th>
<th>Higher education</th>
<th>Missing values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (%)</td>
<td>11 (9.3)</td>
<td>44 (37.3)</td>
<td>18 (15.3)</td>
<td>41 (34.7)</td>
<td>7 (3.3)</td>
</tr>
</tbody>
</table>

Table 3

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>White</th>
<th>Mixed</th>
<th>Black</th>
<th>Chinese</th>
<th>Other</th>
<th>Missing values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (%)</td>
<td>108 (91.5)</td>
<td>2 (1.7)</td>
<td>3 (2.5)</td>
<td>1 (0.8)</td>
<td>1 (0.8)</td>
<td>3 (2.5)</td>
</tr>
</tbody>
</table>

Table 4

<table>
<thead>
<tr>
<th>Sexual Orientation</th>
<th>Heterosexual</th>
<th>Gay/Lesbian</th>
<th>Bisexual</th>
<th>Missing values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (%)</td>
<td>107 (90.7)</td>
<td>3 (2.5)</td>
<td>3 (2.5)</td>
<td>5 (4.2)</td>
</tr>
</tbody>
</table>

As can be seen from Table 2, there was a good spread of educational qualifications within the sample with the majority leaving school with their G.C.S.E’s. The main ethnic group that participated in the study was white. The majority of the sample was heterosexual.
Sexual History

Table 5

Past Sexual Encounters (N = 118)

<table>
<thead>
<tr>
<th>Age when first had sex</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;16</td>
<td>43 (36.4%)</td>
</tr>
<tr>
<td>16-18</td>
<td>61 (51.7%)</td>
</tr>
<tr>
<td>19-24</td>
<td>11 (9.3%)</td>
</tr>
<tr>
<td>&gt;25</td>
<td>1 (0.8%)</td>
</tr>
<tr>
<td>Missing values</td>
<td>2 (1.7%)</td>
</tr>
</tbody>
</table>

Table 6

STI History

<table>
<thead>
<tr>
<th>Infection/Disease</th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>Total (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia</td>
<td>29 (26.9%)</td>
<td>79 (73.1%)</td>
<td>108</td>
</tr>
<tr>
<td>Gonorrhoea</td>
<td>2 (2.0%)</td>
<td>96 (98.0%)</td>
<td>98</td>
</tr>
<tr>
<td>Herpes</td>
<td>6 (6.1%)</td>
<td>93 (93.9%)</td>
<td>99</td>
</tr>
<tr>
<td>Syphilis</td>
<td>1 (1.0%)</td>
<td>95 (99.0%)</td>
<td>96</td>
</tr>
<tr>
<td>Genital Warts</td>
<td>14 (13.7%)</td>
<td>88 (86.3%)</td>
<td>102</td>
</tr>
<tr>
<td>HIV</td>
<td>4 (4.1%)</td>
<td>94 (95.9%)</td>
<td>98</td>
</tr>
<tr>
<td>Thrush</td>
<td>26 (25.5%)</td>
<td>76 (74.5%)</td>
<td>102</td>
</tr>
<tr>
<td>Bacterial Vaginosis</td>
<td>4 (4.9%)</td>
<td>78 (95.1%)</td>
<td>82</td>
</tr>
<tr>
<td>TV</td>
<td>1 (1.1%)</td>
<td>90 (98.9%)</td>
<td>91</td>
</tr>
<tr>
<td>NSU</td>
<td>7 (7.5%)</td>
<td>86 (92.5%)</td>
<td>93</td>
</tr>
</tbody>
</table>

Table 5 shows a breakdown of ages of when the participant had their first sexual encounter, the majority were in the 16-18 year old category and the mean age was at 16.2 (S.D. = 2.08). The number of partners participants reported within the past three months averaged at just under 2 partners (M = 1.87, S.D = 2.98), with 50% having one partner and 38% having 2 or more. Table 6 gives an account of the STI history; in this particular sample 24.6% of those who responded to this question had received a diagnosis of Chlamydia on a past occasion. Overall Chlamydia was the most common STI, closely followed by thrush (22 %) and genital warts (11.9%).
Table 7

Contraceptive use (N = 118)

<table>
<thead>
<tr>
<th>Method</th>
<th>Regular partner (%)</th>
<th>Casual partner (%)</th>
<th>Both regular and casual partners (%)</th>
<th>Total</th>
<th>Missing Values (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condoms</td>
<td>25 (41.0)</td>
<td>27 (44.3)</td>
<td>9 (14.8)</td>
<td>61</td>
<td>57 (48.3)</td>
</tr>
<tr>
<td>Pill</td>
<td>35 (67.3)</td>
<td>13 (25.0)</td>
<td>4 (7.7)</td>
<td>52</td>
<td>66 (55.9)</td>
</tr>
<tr>
<td>Injection</td>
<td>1 (100)</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>117 (99.2)</td>
</tr>
<tr>
<td>Implanon</td>
<td>4 (80.0)</td>
<td>1 (20.0)</td>
<td>-</td>
<td>5</td>
<td>113 (95.8)</td>
</tr>
<tr>
<td>Coil</td>
<td>4 (66.7)</td>
<td>2 (33.3)</td>
<td>-</td>
<td>6</td>
<td>111 (94.1)</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>1 (25.0)</td>
<td>3 (75.0)</td>
<td>-</td>
<td>4</td>
<td>114 (96.6)</td>
</tr>
<tr>
<td>Nothing</td>
<td>15 (75.0)</td>
<td>4 (20.0)</td>
<td>1 (5.0)</td>
<td>20</td>
<td>98 (83.1)</td>
</tr>
<tr>
<td>Other</td>
<td>1 (100)</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>117 (99.1)</td>
</tr>
</tbody>
</table>

Table 7 shows that the most common form of birth control used by people in regular relationships was the contraceptive pill, followed by condoms and no contraception. As expected condoms were used by the majority of people in casual relationships and also favoured by people in both types of relationships.

Worry About STIs

Table 8

Likert Scale Measure for Worry About STIs. (N = 118)

<table>
<thead>
<tr>
<th>Worry about STI</th>
<th>Not at all (%)</th>
<th>A little (%)</th>
<th>Sometimes (%)</th>
<th>Quite a bit (%)</th>
<th>A lot (%)</th>
<th>Missing values (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (%)</td>
<td>9 (7.6)</td>
<td>12 (10.2)</td>
<td>38 (32.2)</td>
<td>27 (22.9)</td>
<td>31 (26.3)</td>
<td>1 (0.8)</td>
</tr>
</tbody>
</table>

The majority of participants rated themselves as worrying "sometimes" about STIs, this was the middle value of the Likert scale. This was closely followed by the top end response of worrying "a lot" (26.3%). Few people were not worried at all (7.6%).
Further analysis of this section was undertaken to investigate the level of worry participants reported about STIs and whether there was a link to other demographics such as gender, the number of sexual partners in the past three months and whether they had attended before. It was felt this information could be useful for health professionals to identify why people may worry about STIs. This analysis involved creating two different categories, worriers and non-worriers. Those defined as “non-worriers” reported worrying about STIs as “not at all” or “a little” and those defined as worriers reported worry about STIs “sometimes” through to “a lot”. Descriptive analyses of these groups showed that females tended to worry more than males (87.8%). A chi-square test of association was carried out to see if this relationship was significant. The test showed that these findings were not statistically significant ($X^2 = 3.336, df = 1, p = 0.068$).
Table 10

<table>
<thead>
<tr>
<th>Number of partners in the last three months</th>
<th>Non-worriers (%)</th>
<th>Worriers (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>4 (19.0)</td>
<td>8 (8.4)</td>
<td>12 (10.3)</td>
</tr>
<tr>
<td>1</td>
<td>14 (66.7)</td>
<td>45 (47.4)</td>
<td>59 (50.9)</td>
</tr>
<tr>
<td>2</td>
<td>2 (9.5)</td>
<td>21 (22.1)</td>
<td>23 (19.8)</td>
</tr>
<tr>
<td>3</td>
<td>0 (0)</td>
<td>13 (13.7)</td>
<td>13 (11.2)</td>
</tr>
<tr>
<td>4</td>
<td>1 (4.8)</td>
<td>3 (3.2)</td>
<td>4 (3.4)</td>
</tr>
<tr>
<td>5</td>
<td>0 (0)</td>
<td>1 (1.1)</td>
<td>1 (0.9)</td>
</tr>
<tr>
<td>6</td>
<td>0 (0)</td>
<td>2 (2.1)</td>
<td>2 (1.7)</td>
</tr>
<tr>
<td>10</td>
<td>0 (0)</td>
<td>1 (1.1)</td>
<td>1 (0.9)</td>
</tr>
<tr>
<td>30</td>
<td>0 (0)</td>
<td>1 (1.1)</td>
<td>1 (0.9)</td>
</tr>
<tr>
<td>Total</td>
<td>21 (100)</td>
<td>95 (100)</td>
<td>116 (100)</td>
</tr>
</tbody>
</table>

$U = 658.00, N^1 = 21, N^2 = 95, p = 0.004$, two-tailed

Although the median for both groups was 1 partner the Mann-Whitney test shows that worriers tend to have more partners than non-worriers (0-4 partners). The non-parametric test showed findings to be significant ($U = 658.00, N^1 = 21, N^2 = 95, p = 0.004$, two-tailed).

Table 11

<table>
<thead>
<tr>
<th>Clinic attendance</th>
<th>Non-worriers (%)</th>
<th>Worriers (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had attended</td>
<td>9 (19.1)</td>
<td>38 (80.9)</td>
<td>47</td>
</tr>
<tr>
<td>before</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had not attended</td>
<td>12 (17.4)</td>
<td>57 (82.6)</td>
<td>69</td>
</tr>
<tr>
<td>before</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>21 (18.1)</td>
<td>95 (81.9)</td>
<td>116</td>
</tr>
</tbody>
</table>

$X^2 = 0.058, df = 1, p = 0.809$

Table 11 shows that the percentages of people who were either worried or not worried were similar when comparing whether the individual had attended before or not. It was found that these differences were not statistically significant $X^2 = 0.058, df = 1, p = 0.809$.

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Summary of Section 1

There were no significant differences in gender; the average age of the sample was approximately 25 years old. The majority of the population was heterosexual and white. Participants attending were in different relationships, some had attended before and some people had not. About a quarter of the sample had received a diagnosis of Chlamydia in the past and very few people stated that they did not worry about STIs at all. Interestingly though, people’s preferred method of contraception did not reflect this worry with only 41.0% of people in regular relationships using condoms and 44.3% of people in casual relationships using condoms as their preferred method of contraception. Furthermore 20 people in the sample reported using “nothing” as a method of contraception. Overall the sample was varied enough to suggest that attendance at a sexual health clinic is not specific to a stereotypical socio-demographic sub group.
Section 2: Descriptive Analysis of SOC, Decisional Balance, Self-efficacy and Anxiety

Stages of Change

As the main construct of the TTM, Stages of Change for positive sexual behaviour was defined as using condoms and seeking STI screening. Using condoms was further broken down into partner relationship categories.

Figure 5

*Stages of Change for General Condom use at Initial Attendance (N = 106)*

Figure 5 shows that Stages of Change for overall condom use (regardless of partner relationship) the majority were in the Precontemplation stage 41.5%, followed by the Preparation stage with 24.5%.
Figure 6 shows the Stages of Change for condom use at initial attendance broken down by partner relationships. The majority of those in a regular relationship were in the Precontemplation stage for condom use (53.86%), compared to the majority of people in casual relationships being in the Preparation stage (53.1%). There were no major differences in partner relationship for the other three stages.
Figure 7 shows the Stages of Change for seeking STI screening. The majority of participants were in the Contemplation stage (30.1%), the lowest stage was Precontemplation (15.0%) however all other stages were similar in numbers.
Figure 8 shows the number of people in different Stages of Change for both condom use and STI screening. There is a major difference in the Precontemplation stage, using condoms (41.5%) seeking screening (14.4%). Generally there are more people in the later Stages of Change for STI screening than there are for condom use. This shows that Stage of Change varies between variables (e.g. condom use and screening).
Table 12

Comparison of Stages of Change for Condom use and Stages of Change for Seeking STI Screening (N = 104)

<table>
<thead>
<tr>
<th>Stage of change for condom use</th>
<th>Precontemplation (%)</th>
<th>Contemplation (%)</th>
<th>Preparation (%)</th>
<th>Action (%)</th>
<th>Maintenance (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplation</td>
<td>14 (82.4)</td>
<td>11 (33.3)</td>
<td>7 (36.8)</td>
<td>8 (44.4)</td>
<td>4 (23.5)</td>
<td>44 (42.3)</td>
</tr>
<tr>
<td>Contemplation</td>
<td>1 (5.9)</td>
<td>9 (27.3)</td>
<td>4 (21.1)</td>
<td>2 (11.1)</td>
<td>3 (17.6)</td>
<td>19 (18.3)</td>
</tr>
<tr>
<td>Preparation</td>
<td>2 (11.8)</td>
<td>8 (24.2)</td>
<td>7 (36.8)</td>
<td>5 (27.8)</td>
<td>3 (17.6)</td>
<td>25 (24.0)</td>
</tr>
<tr>
<td>Action</td>
<td>0</td>
<td>3 (9.1)</td>
<td>0</td>
<td>0</td>
<td>3 (17.6)</td>
<td>6 (5.8)</td>
</tr>
<tr>
<td>Maintenance</td>
<td>0</td>
<td>2 (6.1)</td>
<td>1 (5.3)</td>
<td>3 (16.7)</td>
<td>4 (23.5)</td>
<td>10 (9.6)</td>
</tr>
<tr>
<td>Total</td>
<td>17 (100)</td>
<td>33 (100)</td>
<td>19 (100)</td>
<td>18 (100)</td>
<td>17 (100)</td>
<td>104 (100)</td>
</tr>
</tbody>
</table>

\[X^2 = 10.652, \text{df} = 1, p = 0.001^5\]

In order to investigate whether there was a relationship between these variables a chi-square test of association was carried out between Stages of Change for condom use and STI screening. This test was found to be statistically significant \((X^2 = 10.652^5, \text{df} = 1, p = 0.001)\). This means that there is an association between being in a particular Stage of Change for condom use and being in a particular Stage of Change for STI screening. Table 12 shows that if you are in Precontemplation for condom use you are likely to be in Precontemplation for STI screening, this trend follows with Contemplation and Maintenance stages.

---

5 P value represents an exact value. All subsequent chi square tests and p values are exact unless stated otherwise.
Decisional Balance

Decisional Balance was divided into two categories, using condoms and seeking STI screening. Each category had a set of 10 statements, five stating the advantages of the behaviour and five stating the disadvantages of the behaviour. Each participant had to rate each statement as to how important it was e.g. a participant may have rated an advantage of condom use such as “I would feel safer” as extremely important. The rating of the statements importance ranged on a five point Likert scale from not important at all to extremely important. Table 13 shows the Decisional Balance statements for condom use and the frequencies of the importance ratings.
Table 13

**Decisional Balance Statements for Condom use (N= 118)**

<table>
<thead>
<tr>
<th>Advantages of condom use</th>
<th>Not Important (%)</th>
<th>Slightly Important (%)</th>
<th>Moderately Important (%)</th>
<th>Very Important (%)</th>
<th>Extremely Important (%)</th>
<th>Missing values (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;I would feel safer&quot;</td>
<td>4 (3.4)</td>
<td>10 (8.5)</td>
<td>15 (12.7)</td>
<td>24 (20.3)</td>
<td>59 (50.0)</td>
<td>6 (5.1)</td>
</tr>
<tr>
<td>&quot;It would build trust&quot;</td>
<td>10 (8.5)</td>
<td>7 (5.9)</td>
<td>20 (16.9)</td>
<td>27 (22.9)</td>
<td>47 (39.8)</td>
<td>7 (15.9)</td>
</tr>
<tr>
<td>&quot;I'd feel more responsible&quot;</td>
<td>7 (5.9)</td>
<td>1 (0.8)</td>
<td>26 (22.0)</td>
<td>28 (23.7)</td>
<td>51 (43.2)</td>
<td>5 (4.2)</td>
</tr>
<tr>
<td>&quot;Sex would feel cleaner&quot;</td>
<td>14 (11.9)</td>
<td>13 (11.0)</td>
<td>28 (23.7)</td>
<td>19 (16.1)</td>
<td>39 (33.1)</td>
<td>5 (4.2)</td>
</tr>
<tr>
<td>&quot;Sex would be less worrisome&quot;</td>
<td>6 (5.1)</td>
<td>7 (5.9)</td>
<td>17 (14.4)</td>
<td>21 (17.8)</td>
<td>60 (50.8)</td>
<td>7 (5.9)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disadvantages of condom use</th>
<th>Not Important (%)</th>
<th>Slightly Important (%)</th>
<th>Moderately Important (%)</th>
<th>Very Important (%)</th>
<th>Extremely Important (%)</th>
<th>Missing values (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;It would be a lot of trouble&quot;</td>
<td>53 (44.9)</td>
<td>13 (11.0)</td>
<td>22 (18.6)</td>
<td>9 (7.6)</td>
<td>12 (10.2)</td>
<td>9 (7.6)</td>
</tr>
<tr>
<td>&quot;It would make sex less spontaneous&quot;</td>
<td>31 (26.3)</td>
<td>17 (14.4)</td>
<td>33 (28.0)</td>
<td>17 (14.4)</td>
<td>13 (11.0)</td>
<td>7 (5.9)</td>
</tr>
<tr>
<td>&quot;My partner would be angry&quot;</td>
<td>66 (55.9)</td>
<td>10 (8.5)</td>
<td>18 (15.3)</td>
<td>5 (4.2)</td>
<td>10 (8.5)</td>
<td>9 (7.6)</td>
</tr>
<tr>
<td>&quot;It would make sex less exciting&quot;</td>
<td>37 (31.4)</td>
<td>20 (16.9)</td>
<td>30 (25.4)</td>
<td>9 (7.6)</td>
<td>14 (11.9)</td>
<td>8 (6.8)</td>
</tr>
<tr>
<td>&quot;Sex would take longer&quot;</td>
<td>60 (50.8)</td>
<td>17 (14.4)</td>
<td>13 (11.0)</td>
<td>5 (4.2)</td>
<td>13 (11.0)</td>
<td>10 (8.4)</td>
</tr>
</tbody>
</table>

The most common responses are highlighted in the bold text. The majority of people have responded favourably to the advantages of condom use saying that these statements are extremely important to them. Furthermore for the disadvantages the majority of responses were that these statements were not important for people, however for the statement "It would make sex less spontaneous" the majority rated it as moderately important, 28%.

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Post-hoc Analysis

Further analysis of this section involved creating two new variables that grouped participants responses to advantages of using condoms and disadvantages of using condoms. For each group the data was recoded into those who rated advantage/disadvantage as Not Important, Moderately Important and Extremely Important. These new categories were defined to be a combination of the original responses e.g. Not Important was a combination of “not important” and “slightly important” responses, Moderately Important was made up of the same response e.g. “moderately important” and Extremely Important was a combination of “very important” and “extremely important” responses. A decision about which category each participant would fit into was done by summing the number of responses, a score of 3 out of 5 on the responses from a particular category meant the participant would be assigned to that group. E.g. a participant may have scored the five statements about advantages of using condoms as not important, slightly important, moderately important, not important and moderately important. This participant would then be assigned to the Not Important group as they have three out of five scores from this groups criteria (either not important or slightly important). Those participants who scores were not possible to fit into a group because they had equal amounts of responses for each category were excluded from this analysis.

In order to explore the relationship between Decisional Balance for condom use and Stages of Change for condom use a chi-square test of association was carried out with each group. Tables 14 and 15 outline the main findings.
Table 14

<table>
<thead>
<tr>
<th>Advantages are...</th>
<th>Stages of Change</th>
<th>Precontemplation (%)</th>
<th>Contemplation (%)</th>
<th>Preparation (%)</th>
<th>Action (%)</th>
<th>Maintenance (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Important</td>
<td></td>
<td>9 (75.0)</td>
<td>1 (8.3)</td>
<td>2 (16.7)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>12 (100)</td>
</tr>
<tr>
<td>Moderately Important</td>
<td></td>
<td>6 (66.7)</td>
<td>1 (11.1)</td>
<td>2 (22.2)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>9 (100)</td>
</tr>
<tr>
<td>Extremely Important</td>
<td></td>
<td>24 (32.0)</td>
<td>14 (18.7)</td>
<td>21 (28.0)</td>
<td>6 (8.0)</td>
<td>10 (13.3)</td>
<td>75 (100)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>39 (40.6)</td>
<td>16 (16.7)</td>
<td>25 (26.0)</td>
<td>6 (6.3)</td>
<td>10 (10.4)</td>
<td>96 (100)</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 9.350, \ df = 1, \ p = 0.002 \]

The relationship between Stages of Change for condom use and advantages of using condoms was found to be statistically significant, \( \chi^2 = 9.350, \ df = 1, \ p = 0.002 \). Table 14 shows those who found the advantages of using condoms not important were mainly in the Precontemplation stage. This trend also followed for people who found the advantages moderately and extremely important. However those who found the advantages extremely important had more people represented in the later Stages of Change (Action and Maintenance) whereas the other categories did not.

---

\( ^6 \) General condom use
Table 15

<table>
<thead>
<tr>
<th>Stages of Change for Condom use and Disadvantages of Using Condoms. (N = 93)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stages</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Not Important</td>
</tr>
<tr>
<td>Moderately Important</td>
</tr>
<tr>
<td>Extremely Important</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

$X^2 = 2.318, \ df = 1, \ p = 0.135$

There was not a significant relationship between Stages of Change for condom use and disadvantages of using condoms ($X^2 = 2.318, \ df = 1, \ p = 0.135$). Table 15 shows those who found the disadvantages of using condoms not important were mainly in the Precontemplation stage. Furthermore those who found the disadvantages extremely important were not only in the Precontemplation stage but spread across all Stages of Change.
<table>
<thead>
<tr>
<th>Decisional Balance Statements for Seeking STI Screening (N= 118)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advantages of seeking STI screening</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Not important (%)</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>&quot;I would not have to worry about having STI&quot;</td>
</tr>
<tr>
<td>9 (7.6)</td>
</tr>
<tr>
<td>&quot;I would not have to worry about spreading infection unknowingly&quot;</td>
</tr>
<tr>
<td>4 (3.4)</td>
</tr>
<tr>
<td>&quot;I would have a sense of control over my fertility&quot;</td>
</tr>
<tr>
<td>12 (10.2)</td>
</tr>
<tr>
<td>&quot;I'd feel more responsible for my health&quot;</td>
</tr>
<tr>
<td>3 (2.5)</td>
</tr>
<tr>
<td>&quot;It would make me feel clean&quot;</td>
</tr>
<tr>
<td>3 (2.5)</td>
</tr>
<tr>
<td>Disadvantages of seeking STI screening</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Not important (%)</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>&quot;I don't feel comfortable with the staff at testing site&quot;</td>
</tr>
<tr>
<td>65 (55.1)</td>
</tr>
<tr>
<td>&quot;I don't want to know the results&quot;</td>
</tr>
<tr>
<td>57 (48.3)</td>
</tr>
<tr>
<td>&quot;I'm not at risk&quot;</td>
</tr>
<tr>
<td>48 (44.1)</td>
</tr>
<tr>
<td>&quot;People may recognise me at the test site&quot;</td>
</tr>
<tr>
<td>52 (44.1)</td>
</tr>
<tr>
<td>&quot;It takes a lot of time&quot;</td>
</tr>
<tr>
<td>51 (43.2)</td>
</tr>
</tbody>
</table>

Similar to the condom use statements the majority of participants have rated in a "idealised" way, e.g. advantages of screening are important and disadvantages of screening are not important. These are highlighted by the bold text. However 13.6% rated feeling comfortable with staff at test site as moderately important disadvantage of seeking STI.
screening, as did 14.4% on statement “people may recognise me at test site. Moreover
statements such as “I don’t want to know the results”, “I’m not at risk” and “It takes a lot of
time” were rated as extremely important by 16.9%, 20.3% and 15.3 % respectively,
showing that these were still pertinent issues for a lot of patients.

Post-hoc Analysis

Again further analysis of this section involved creating two new variables that grouped
participants responses to advantages of seeking STI screening and disadvantages of seeking
STI screening. The recoding of variables followed the same procedure as outlined
previously for the statements about using condoms.

A chi-square test of association was carried out with each group to explore the relationship
between Decisional Balance for seeking STI screening and Stage of Change for seeking
STI screening. Tables 17 and 18 outline the main findings.
Table 17

<table>
<thead>
<tr>
<th>Stages of Change for Seeking STI Screening and Advantages of Seeking STI Screening. (N = 96)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advantages are...</td>
</tr>
<tr>
<td>Not Important</td>
</tr>
<tr>
<td>Moderately Important</td>
</tr>
<tr>
<td>Extremely Important</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

\(X^2 = 3.383, \text{ df} = 1, p = 0.068\)

There was not a significant relationship between Stages of Change for seeking STI screening and advantages of seeking STI screening \(\left(X^2 = 3.383, \text{ df} = 1, p = 0.068\right)\). Table 17 shows those who found the advantages of seeking screening not important were mainly in the early Stages of Change (Precontemplation, Contemplation). This was also seen in the Extremely Important group, however 26.7% were in the Preparation stage and more people were in the later Stages of Change compared with the other two groups.
Table 18

*Stages of Change for Seeking STI Screening and Disadvantages of Seeking STI Screening*.

\((N = 85)\)

<table>
<thead>
<tr>
<th>Disadvantages are...</th>
<th>Stages of Change</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Precontemplation</td>
<td>Contemplation</td>
<td>Preparation</td>
<td>Action</td>
<td>Maintenance</td>
<td>Total</td>
</tr>
<tr>
<td>Not Important</td>
<td>26 (39.4)</td>
<td>8 (12.1)</td>
<td>19 (28.8)</td>
<td>6 (9.1)</td>
<td>7 (10.6)</td>
<td>66 (100)</td>
</tr>
<tr>
<td>Moderately Important</td>
<td>5 (71.4)</td>
<td>1 (14.3)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>1 (14.3)</td>
<td>7 (100)</td>
</tr>
<tr>
<td>Extremely Important</td>
<td>5 (41.7)</td>
<td>3 (25.0)</td>
<td>3 (25.0)</td>
<td>0 (0)</td>
<td>1 (8.3)</td>
<td>12 (100)</td>
</tr>
<tr>
<td>Total</td>
<td>36 (42.4)</td>
<td>12 (14.1)</td>
<td>22 (25.9)</td>
<td>6 (7.1)</td>
<td>9 (10.6)</td>
<td>85 (100)</td>
</tr>
</tbody>
</table>

\(X^2 = 1.027, \text{ df} = 1, \ p = 0.322\)

There was not a significant relationship between Stages of Change for seeking STI screening and disadvantages of seeking STI screening \((X^2 = 1.027, \text{ df} = 1, \ p = 0.322)\).

Table 18 shows those who found the disadvantages of seeking screening not important were spread across all Stages of Change but the majority were in the Precontemplation stage. The same trend was observed for those in the Extremely Important group.
Self-Efficacy

Figure 9

Self-efficacy for Using Condoms and Seeking STI Screening When Perceived to be at Risk (N = 226)

This graph shows the frequency of people's responses to the Self-efficacy question. Overall the majority of people rated "extremely sure" as their response to using condoms and seeking STI screening (61.9%, 47.2% respectively). However patients were less likely to be extremely sure about seeking STI screening with 13.6% responding as "sure" and 20.3% responding as "very sure".
Post-hoc Analysis

Further analysis of this section involved recoding the variables into two groups, those who responded as sure (from slightly sure through to extremely sure) and those who responded as not sure. The recoding was carried out with both condom use and STI screening. A chi-square test of association was carried out with each group to investigate the relationship between self efficacy and Stages of Change.

Table 19

| Stages of Change for Condom use and Self-efficacy for Condom Use. (N = 98) |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                  | Precontemplation (%) | Contemplation (%) | Preparation (%) | Action (%) | Maintenance (%) |
| Sure group       | 40 (97.6)         | 17 (94.4)        | 25 (100)        | 5 (100)    | 8 (88.9)        |
| Not sure group   | 1 (2.4)           | 1 (5.6)          | 0 (0)           | 0 (0)      | 1 (11.1)        |
| Total            | 41 (100)          | 18 (100)         | 25 (100)        | 5 (100)    | 9 (100)         |

\[ X^2 = 0.378^b, df = 1, p = 0.668 \]

Table 20

| Stages of Change for Seeking STI Screening and Self-efficacy for Seeking STI Screening. (N = 108) |
|-----------------|-----------------|-----------------|-----------------|-----------------|
|                  | Precontemplation (%) | Contemplation (%) | Preparation (%) | Action (%) | Maintenance (%) |
| Sure group       | 16 (100)         | 31 (96.9)        | 17 (89.5)       | 20 (100)    | 20 (95.2)       |
| Not sure group   | 0                | 1 (3.1)          | 2 (10.5)        | 0            | 1 (4.8)         |
| Total            | 16 (100)         | 32 (100)         | 19 (100)        | 20 (100)    | 21 (100)        |

\[ X^2 = 0.160^b, df = 1, p = 0.722 \]

Both tables 19 and 20 show that there was not a significant result for Self-efficacy and stage of change for either using condoms or seeking STI screening. This means that Self-
efficacy does not influence the particular stage of change the participant is in. However, these findings may reflect the small numbers drawn from the re-coded variables. For Self-efficacy and condom use, the three participants who rated themselves as not sure were in different Stages of Change, Precontemplation, Contemplation, and Maintenance. Likewise, the people who were sure were spread across the Stages of Change with the highest number in the Precontemplation Stage (40/95). For STI screening, the not sure group were spread across different Stages of Change and the sure group were mainly in the Contemplation Stage (31/104), however, as Table 20 shows the spread was roughly even across all stages, highlighting that Self-efficacy and Stage of Change for STI screening are not related to one another.
Anxiety

The six-item short-form version of the state scale of the STAI was pro-rated to give an equivalent score for the full version of the state scale of the STAI.

Figure 10

Anxiety Scores at Initial Attendance ($N = 107$)

Figure 10 shows the spread of anxiety scores at initial attendance, the largest group obtained a prorated score of 50 (12.7%) on the STAI, this is above the clinical cut off score.
for clinically significant anxiety, e.g. anything between 50-80 is deemed as clinically significant, (Speilberger et al., 1970; Jong-Potjer et al., 2006; Maissi et al., 2004).

Figure 11

Classification Categories of Anxiety for Participants at Initial Attendance (N = 109)

Figure 11 shows the percentage of participants in each of the different classifications, 47.5% were identified as scoring within the clinical significant range for anxiety.
Summary of Section 2

The descriptive analysis of the SOC at initial attendance showed that overall participants were in the Precontemplation stage for using condoms and in the Contemplation stage for seeking STI screening. When the SOC for condoms were broken down into partner relationships it was found that the majority of people in regular relationships were in the Precontemplation stage and the people in causal relationships were more likely to be in the Preparation stage. When comparing SOC for condoms and STI screening, it was found that more people were in the Precontemplation stage for condoms than for STI screening and more people were in the later SOC (e.g. Action and Maintenance) for STI screening than they were for condom use. A further analysis of the relationship between these variables showed that SOC for condom use was likely to be the same for STI screening. When examining the Decisional Balance component, most people rated the advantages of screening and condom use as important. In addition most people rated the disadvantages of screening and condom use as not important. However further analysis of these findings suggested that there was not a relationship between Decisional Balance and SOC apart from the advantages of using condoms. Those who rated the advantages of condoms as not important were more likely to be in the Precontemplation stage. People who rated the advantages as Extremely Important were more likely to be in a further SOC. For the Self-efficacy measure the majority of people felt sure that they would be able to use condoms or seek STI screening when they were at risk. However further analysis did not show a relationship between Self-efficacy and SOC. It must be noted that these findings may reflect a lack of power in the strength of the sample size rather than in the actual association itself. Finally the anxiety measure scores were evenly distributed throughout the sample with over half of the participants scoring within the clinically anxious range.
Section 3: Cross-Sectional Research Questions

Research Question 1

Is There a Difference in Stage of Change (SOC) for Positive Sexual Health Behaviour in Patients who are Asymptomatic Compared to Patients who are Symptomatic?

To address this question, Stage of Change for positive sexual health behaviour was looked at separately. These were broken down into two distinct categories; Stage of Change for using condoms and Stage of Change for seeking STI screening. Furthermore to account for any differences in partner relationships condom use was broken down into three parts, Stage of Change for condom use with a regular partner, Stage of Change for condom use with a casual partner and an overall Stage of Change for condom use regardless of partner relationship.
Is There a Difference in SOC for Condom use in Patients who are Asymptomatic Compared to Patients who are Symptomatic?

Figure 12

Stages of Change for General Condom use for Symptomatic and Asymptomatic Patients at Initial Attendance (N = 105)

Figure 12 shows that overall Precontemplation was the largest group (41.7%) made up of both symptomatic and asymptomatic patients (38.8% & 44.4%, respectively). The second most commonly occurring stage was Preparation, overall 24, 24.3% were ready to start using condoms. There were no typical trends observed for Stages of Change, i.e. the number of people in each category does not fall the further along the Stages of Change progress, both the Preparation and Maintenance stages are larger than the previous stage. In addition percentages of asymptomatic and symptomatic patients in each stages were similar.
Figure 13

*Stages of Change for Condom use with a Causal Partner for Symptomatic and Asymptomatic Patients at Initial Attendance (N = 48)*

Figure 13 shows that when patients are divided according to partner relationships, people in casual relationships are most frequently in the Preparation Stage (56.6%). However this graph shows again that there is not much difference in the distribution between patients that are symptomatic compared with those that are asymptomatic.
As with general condom use, patients who were in a regular relationship were more likely to be in Precontemplation (53.2%). In addition there is not much variance in whether the patient has got symptoms or not (48.6% & 57.1%).

A chi-square test for association was carried out on each section. There was no relationship between Stage of Change for condom use (in any of the breakdown categories) and the symptomatic status of the patient. For general condom use: $X^2 = 0.073$, df = 1, $p = 0.826$, for condom use with a casual partner: $(X^2 = 0.314$, df = 1, $p = 0.712$ and finally for condom use with a regular partner: $X^2 = 0.074$, df = 1, $p = 0.795$. These findings suggest there is no evidence that a patient is more likely to be in a further Stage of Change if they are symptomatic or asymptomatic.
Is There a Difference in SOC for STI Screening in Patients who are Asymptomatic Compared With Patients who are Symptomatic?

Figure 15

Stages of Change for Seeking STI Screening for Symptomatic and Asymptomatic Patients at Initial Attendance (N = 112)

Figure 15 shows that for the Precontemplation and Contemplation stages the number of asymptomatic patients are larger, 21.6% asymptomatic patients for Precontemplation compared with 10.2% symptomatic patients and 37.3% asymptomatic patients in contemplation compared with 23.7%. Conversely as the Stages of Change progress the graph shows that symptomatic people tend to be more in the Preparation, Action and Maintenance phases than asymptomatic patients. Furthermore these figures steadily rise the
further along the stages process. In the Maintenance stage there are twice as many symptomatic patients than asymptomatic patients.

In order to test whether these findings were significant a chi square test of association was carried out and showed that there was a relationship between Stage of Change for STI screening and the symptomatic status of the patient ($X^2 = 5.312$, df = 1, $p = 0.022$). This suggests that the presence of symptoms means that a patient is more likely to be at a further Stage of Change for seeking STI screening than a patient who does not have any symptoms.

**Summary**

The results suggest there is not an association between SOC for condom use and whether a patient has symptoms or not. However there is an association between SOC for seeking STI screening and being asymptomatic or not. Here it was observed that patients who were asymptomatic were more likely to be in the earlier SOC and those who were symptomatic were more likely to be in the later SOC.
Research Question 2

Is There a Difference in Levels of Anxiety in Patients who are Asymptomatic Compared to Patients who are Symptomatic?

Figure 16

Boxplot to Show the Median Score and the Spread of STAI Scores for Patients who are Asymptomatic and Symptomatic (N = 106)

This boxplot shows that there is little difference in the range of anxiety scores between patients who are asymptomatic compared with those that are not. The symptomatic patients' anxiety scores are more tightly clustered around the median (Asymptomatic 46,
Symptomatic 50) however as the figure shows the difference in the mean values are minimal (Asymptomatic: M = 47.36, SD = 17.71, Symptomatic: M = 49.31, SD = 14.84). The analysis of this question was carried out using an independent t-test comparing the two different samples. There was no significant difference between the two patient groups (t = -0.613, df = 103, p = 0.542, two-tailed). This means that there is no difference in anxiety score depending on whether you are symptomatic or not.

Summary

There were no differences in levels of anxiety at initial attendance between patients who were symptomatic compared with patients who were asymptomatic.
Research Question 3

Does Level of Anxiety at Initial Attendance Predict Stages of Change for Positive Sexual Health Behaviour?

To address the question of does level of anxiety at initial attendance predict Stages of Change for positive sexual health behaviour ordinal regression modelling was used to analyse the data.

Does Level of Anxiety at Initial Attendance Predict Stages of Change for Using Condoms?

Figure 17

Scatterplot to Show Anxiety Score and Stage of Change for General Condom use at Initial Attendance \(^7\) (N = 53)

\(^7\) Key: Pre = Precontemplation, Con = Contemplation, Prep = Preparation, Action = Action, Main = Maintenance
This scatterplot shows the distribution of anxiety scores across the Stages of Change. There is not a relationship between high and low anxiety and a particular Stage of Change observed from this plot. It appears no matter how anxious an individual is they can be in any Stage of Change.

This was further analysed using ordinal regression modelling. The parameter seen from the Table 3.1 (Appendix 6) shows the regression coefficient estimate for level of anxiety was not statistically significant (p=0.708). This shows that there is no evidence that level of anxiety is predictive of SOC for condom use with a regular partner. Again Table 3.2 (Appendix 6) shows the regression coefficient estimate for level of anxiety was not statistically significant, p = 0.476. This shows that there is no evidence that level of anxiety is predictive of SOC for condom use with a casual partner. And finally, the parameter seen from the Table 3.3 (Appendix 6) shows the regression coefficient estimate for level of anxiety was not statistically significant, p = 0.986. This shows that there is no evidence that level of anxiety is predictive of SOC for general condom regardless of partner relationship. These findings suggest that anxiety score is not a significant predictor of being in a particular SOC for condom use.
Does Level of Anxiety at Initial Attendance Predict Stages of Change for Seeking STI Screening?

Figure 18

Scatterplot to Show Anxiety Score and Stage of Change for STI Screening at Initial Attendance (N = 61)

Again this scatterplot shows that there is not a relationship observed for Stage of Change for STI screening and anxiety. The parameter seen from the Table 3.4 (Appendix 6) shows the regression coefficient estimate for level of anxiety was not statistically significant, p = 0.120. This shows that there is no evidence that level of anxiety is predictive of Stages of Change for STI screening. These findings suggest that anxiety is not a significant predictor of being in a particular Stage of Change for STI screening.
Summary

Level of anxiety is not a predictor for Stage of Change for using condoms or seeking STI screening.
Research Question 4

Does an Individual's SOC for Positive Sexual Health Behaviour and Anxiety at Initial Attendance Predict not Coming Back for Treatment?

To examine if an individual's Stage of Change for positive sexual health behaviour and anxiety at initial attendance predict not returning for treatment, logistic regression modelling was employed.  

Figure 19

Boxplot to Show Level of Anxiety at Initial Attendance and Returns to the Clinic (N = 100)

---

8 Binary outcome coded into SPSS modelled factors affecting the probability of non-return to the clinic.
Figure 19 shows the difference in levels of anxiety at initial attendance for those who returned to the clinic and those who did not. The plot shows that the median level of anxiety was the same for both groups (50). However, lower anxiety scores were more common for those who did not return.

Does an Individual's SOC for Using Condoms and Anxiety at Initial Attendance Predict not Coming Back for Treatment?

Figure 20

Stage of Change for Condom use With Regular Partner and Patient Returns (N = 60)

Figure 20 shows that the largest group of people who returned to the clinic were in the Precontemplation stage (23, 62.2%). However, of those patients who did not return to the clinic, the majority were still in the Precontemplation stage (9, 39.1%).
Figure 21 shows that for people in casual relationships the largest group of "returners" and "non-returners" to the clinic were both in the Preparation stage (10, 55.6%, 11, 57.9%). It would appear that stage of change does not affect coming back to the clinic for this group as all other findings are similar.

A logistic regression analysis was carried out to investigate the relationship between SOC, anxiety and not returning to the clinic. It can be seen from Table 4.1 (Appendix 6) that SOC for condom use with regular partner and level of anxiety is not statistically significant (p = 0.084, p = 0.459, respectively) when entered together in logistic regression model.

There was no evidence for either SOC for condom use with regular partner or level of anxiety are predictors for the likelihood to return to the clinic. Similarly it can be seen from
Table 4.2 (Appendix 6) that SOC for condom use with casual partner and level of anxiety is not statistically significant (p = 0.985, p = 0.890, respectively) when entered together in logistic regression model. There was no evidence for either SOC for condom use with casual partner or level of anxiety are predictors for the likelihood to return to the clinic.

Table 21

<table>
<thead>
<tr>
<th>Stages of Change</th>
<th>Returned to clinic (%)</th>
<th>Contemplation (%)</th>
<th>Preparation (%)</th>
<th>Action (%)</th>
<th>Maintenance (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>24 (52.2)</td>
<td>4 (8.7)</td>
<td>9 (19.6)</td>
<td>4 (8.7)</td>
<td>5 (10.9)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>10 (28.6)</td>
<td>9 (25.7)</td>
<td>11 (31.4)</td>
<td>2 (5.7)</td>
<td>3 (8.6)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>34 (42.0)</td>
<td>13 (16.0)</td>
<td>20 (24.7)</td>
<td>6 (7.4)</td>
<td>8 (9.9)</td>
</tr>
</tbody>
</table>

$X^2 = 0.564$, df = 1, p = 0.506

Table 21 shows that the people that returned to the clinic were mainly in the Precontemplation Stage of Change for using condoms. However the majority (by one person) of people that did not return were in the Preparation stage.

It can be seen from table 4.3 (Appendix 6) that SOC for general condom use and level of anxiety was found to be p = 0.060, p = 0.157, respectively when entered together in logistic regression model. There is weak evidence that SOC influences the likelihood of return. Looking at Table 4.3 (Appendix 6) the regression estimates show that those in the contemplation SOC were the least likely to be returners.
A further chi square test of association was carried out on these variables. However there was no association between Stage of Change for condom use and whether or not the patient returned to the clinic for follow up treatment ($X^2 = 0.564$, df = 1, p = 0.506).

*Does an Individual's SOC for STI Screening and Anxiety at Initial Attendance Predict not Coming Back for Treatment?*

Table 22

*Stage of Change for Seeking STI Screening and Patient Returns (N = 87)*

<table>
<thead>
<tr>
<th>Returned to clinic</th>
<th>Precontemplation (%)</th>
<th>Contemplation (%)</th>
<th>Preparation (%)</th>
<th>Action (%)</th>
<th>Maintenance (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>8 (16.3)</td>
<td>14 (28.6)</td>
<td>5 (10.2)</td>
<td>9 (18.4)</td>
<td>13 (26.5)</td>
<td>49 (100)</td>
</tr>
<tr>
<td>No</td>
<td>4 (10.5)</td>
<td>14 (36.8)</td>
<td>7 (18.4)</td>
<td>8 (21.1)</td>
<td>5 (13.2)</td>
<td>38 (100)</td>
</tr>
<tr>
<td>Total</td>
<td>12 (13.8)</td>
<td>28 (32.2)</td>
<td>12 (13.8)</td>
<td>17 (19.5)</td>
<td>18 (20.7)</td>
<td>87 (100)</td>
</tr>
</tbody>
</table>

$X^2 = 0.479$, df = 1, p = 0.534

Table 22 shows the percentages of participants in each group for Stage of Change and whether they returned to the clinic or not. It can be observed that the biggest group were Contemplators and they were made up of equal numbers of people who returned and did not return. However 26.5% of people who returned were in the Maintenance stage for STI screening. It can be seen from Table 4.4 (Appendix 6) that SOC for STI screening and level of anxiety is not statistically significant ($p = 0.275$, $p = 0.424$, respectively) when entered together in logistic regression model. There was no evidence for either SOC STI screening or level of anxiety are predictors for the likelihood to return to the clinic.
Summary

SOC for using condoms and anxiety did not predict whether a patient would return to the clinic. Furthermore there was not a significant result for anxiety and SOC for STI screening being a predictor of patient not returning.
Section 4: Longitudinal Research Questions

This section focuses on the longitudinal part of the study, which used a repeated measures design to follow patients attending the sexual health clinic. Questionnaires were given for the patient to complete before examination, after treatment and at six week follow up (which was given in an envelope for the patient to post back to the researcher). As responses at Phase 2 (after treatment) of the study were few, this section focuses on Phase 1 and Phase 3 of the study only. It was also felt that the arbitrary nature of Phase 2 would not make it a valid time point for data analysis, e.g. for some patients Phase 2 would be on the same day as Phase 1 and for others Phase 2 could be up to 7-10 days later. In addition it is not known how many questionnaires were given and declined by the patient and how many were not asked to complete the questionnaire by health professional.
Research Question 5

Does an Individual’s Stage Of Change (SOC) for Positive Sexual Health Behaviour Change After Attending a Sexual Health Clinic?

To examine if an individual’s Stage of Change for positive sexual health behaviour changed after attending a chi square test of association was carried out.

Does an Individual’s SOC for Condom use Change After Attending the Sexual Health Clinic?

Table 23

Stage of Change for Condom use With a Regular Partner at Phase 1 And Phase 3 (N = 11)

<table>
<thead>
<tr>
<th>Stage of change at phase 1 (before examination)</th>
<th>Precontemplation</th>
<th>Contemplation</th>
<th>Preparation</th>
<th>Action</th>
<th>Maintenance</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplation</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Contemplation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Preparation</td>
<td>2**</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Action</td>
<td>1**</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Maintenance</td>
<td>0</td>
<td>1**</td>
<td>1**</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>11</td>
</tr>
</tbody>
</table>

$X^2 = 5.240, \ df = 1, \ p = 0.018$
* moved forward
**moved backward

Table 23 shows how much movement there has been for participants between the two phases of the study. The key depicts the direction of the movement, as the table shows 5 people have moved backward in Stages of Change from initial attendance to six week follow up. A chi square test showed that there is an association between Stage of Change
for condom use with a regular partner at Phase 1, before examination, and Phase 3, six week follow up ($X^2 = 5.240$, df = 1, $p = 0.018$).

Table 24

*Stage of Change for Condom use With a Casual Partner at Phase 1 And Phase 3 ($N = 5$)*

<table>
<thead>
<tr>
<th>Stage of change at phase 1 (before examination)</th>
<th>Precontemplation</th>
<th>Contemplation</th>
<th>Preparation</th>
<th>Action</th>
<th>Maintenance</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Contemplation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Preparation</td>
<td>1**</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Action</td>
<td>1**</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Maintenance</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
</tbody>
</table>

$X^2 = 1.883$, df = 1, $p = 0.300$

* moved forward
** moved backward

There was no association between Stage of Change for condom use with a casual partner at Phase 1 and Phase 3 ($X^2 = 1.883$, df = 1, $p = 0.300$). As Table 24 shows 2 people moved backwards in their Stage of Change, however the numbers for this were relatively small to observe any significant differences.
Table 25

<table>
<thead>
<tr>
<th>Stage of change at phase 1 (before examination)</th>
<th>Precontemplation</th>
<th>Contemplation</th>
<th>Preparation</th>
<th>Action</th>
<th>Maintenance</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplation</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Contemplation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1*</td>
<td>1</td>
</tr>
<tr>
<td>Preparation</td>
<td>1**</td>
<td>0</td>
<td>1</td>
<td>1*</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Action</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Maintenance</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2**</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>7</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>13</td>
</tr>
</tbody>
</table>

$X^2 = 7.052$, df = 1, $p = 0.005$

* moved forward
** moved backward

Table 25 shows the amount of movement between Phase 1 and Phase 3 for overall condom use. A chi square test of association showed that these were statistically significant ($X^2 = 7.052$, df = 1, $p = 0.005$). This suggests that there is a relationship between Stage of Change for general condom use before examination and Stage of Change for general condom use at 6 week follow up. However as the table depicts the association between these variables is unclear, 2 people have moved forward, 3 have moved backward and 8 have stayed in the same Stage of Change. A bigger sample may be able to provide clearer indications of this.
Does an Individual's SOC for STI Screening Change After Attending the Sexual Health Clinic?

Table 26

<table>
<thead>
<tr>
<th>Stage of Change at Phase 3 (six week follow up)</th>
<th>Precontemplation</th>
<th>Contemplation</th>
<th>Preparation</th>
<th>Action</th>
<th>Maintenance</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplation</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2*</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Contemplation</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>4*</td>
<td>1*</td>
<td>7</td>
</tr>
<tr>
<td>Preparation</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Action</td>
<td>0</td>
<td>0</td>
<td>1**</td>
<td>1</td>
<td>1*</td>
<td>3</td>
</tr>
<tr>
<td>Maintenance</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2**</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>9</td>
<td>3</td>
<td>17</td>
</tr>
</tbody>
</table>

$X^2 = 2.238, \ df = 1, \ p = 0.145$

* moved forward

**moved backward

Table 26 shows the amount of movement between Phase 1 and Phase 3 for seeking STI screening. A chi square test of association showed that these were not statistically significant ($X^2 = 2.238, \ df = 1, \ p = 0.145$).

Summary

These results showed that there was an association between SOC at Phase 1 and SOC at Phase 3 for using condoms with a regular partner and also for general condom use. For people in regular relationships this association was marked by a move backwards in SOC. Yet for general condom use SOC movement was not in one direction, there was movement forward and back for this group, as well as individuals staying in the same SOC. There was...
no evidence of a relationship between SOC for using condoms with a casual partner and
SOC for STI screening at phase 1 with SOC at phase 3.
Research Question 6

Does an Individual’s Level of Anxiety Change After Attending a Sexual Health Clinic?

To investigate whether an individual’s level of anxiety changes after attending the sexual health clinic a paired samples test of Wilcoxon Signed Ranks Test was carried out to analyse the data. A non parametric test was used due to the small numbers of data.

There was a significant difference between the conditions ($z = -3.029$, $N$-ties = 16, $p = 0.002$, two tailed). This means an individual’s STAI score changed significantly after attending the sexual health clinic. The mean difference in scores between Phase 1 and Phase 3 is a drop of 16.70 points on the STAI.

Figure 22

Boxplot to Show the Median and Spread of Anxiety at Initial Attendance and 6 Week Follow up ($N = 124$)
Figure 22 show the median score and spread of scores on the anxiety measure for Phase 1 and Phase 3 of the study, (50 and 33) respectively. The mean scores for both time points were 52.47 (S.D. = 18.78) for Phase 1 and 35.82 (S.D. = 15.22) for Phase 3.

Summary

There was a significant drop in participant's level of anxiety between Phase 1 (before examination) and Phase 3 (after six weeks).
Research Question 7

*Does Level of Anxiety at Initial Attendance Predict Stages of Change for Positive Sexual Health Behaviour at 6 Week Follow up?*

The analysis of this question was planned as regression modelling, however due to the small amount of data collected from the longitudinal part of the study this test was not carried out.

Instead the data was recoded into collective groups to create bigger variables. Therefore the five Stages of Change became three different groups. Group 1 consisted of those in the Precontemplation and Contemplation stages, Group 2 consisted of those in the Preparation stage and Group 3 consisted of those in the Action and Maintenance stages. It was deemed the most appropriate way to break down the categories as Precontemplation and Contemplation show no intention to change, Preparation is preparing to change and Action, Maintenance show some evidence of putting that change into practice. The following scatter plots show each category of condom use and STI screening.
This scatterplot shows that regardless of your level of anxiety at initial attendance you are more likely to be in Precontemplation or Contemplation stage for using condoms with a regular partner at 6 week follow up.

9 Key: Pre/Con = Precontemplation and Contemplation stages combined, Prep = Preparation, Act/Main = Action and Maintenance stages combined.
This scatterplot shows that individuals with a high level of anxiety at initial attendance were more likely to be in the Action and Maintenance stages for using condoms with a casual partner at 6 week follow up.
Figure 25

Scatterplot of Regrouped Stages of Change for General Condom use at Six Week Follow up and Anxiety Prior to Examination (N =13)

Again looking at this scatterplot it shows that those with higher levels of anxiety tend to be in the later Stages of Change. However there are still people with clinically anxious scores in the early Stages of Change for using condoms.
Generally this scatterplot shows those who were highly anxious at the beginning were more likely to be in later Stages of Change for STI screening at 6 week follow up. However the highest anxiety scores were observed to be in the early Stages of Change.

Figure 26

Scatterplot of Regrouped Stages of Change for Seeking STI Screening at six Week Follow up and Anxiety Prior to Examination ($N = 13$)
Summary

As there was not enough data to perform the appropriate statistical test for this question descriptive analysis was carried out. Generally this showed that people who were highly anxious at Phase 1 tended to be in later SOC for condom use and screening at Phase 3.
DISCUSSION

Overview

A longitudinal repeated measures design was employed to investigate whether an individual’s Stage of Change for using condoms and seeking STI screening are influenced by the process of attending a sexual health clinic for a Chlamydia test. This was addressed by a cross-sectional analysis of the results as well as a longitudinal approach. The discussion will first present an examination of the main findings from the results and their implications. Next the methodological considerations will be examined, considering the associated strengths and weaknesses of the present study. Finally the theoretical and clinical implications of the findings will be discussed together with suggestions for future research.
Research Findings

Demographics

As psychological research into sexual health specifically related to Chlamydia is a relatively new and therefore under-researched area; there are few studies that have been undertaken with a population from a sexual health clinic. Those that look at a diagnosis of Chlamydia within this setting have mainly focussed on women only and have been carried out in urban areas in the U.S.A (Chacko et al., 2004; Hullet, 2004; Banikarim et al., 2003). In relation to the local area where the current research was undertaken this is very different in terms of general demographics. Those undertaken in the UK (Chouliria, Athanasios, Goulbourne, & Smart, 2006; Mills et al., 2006; Duncan et al., 2001) have been qualitative in nature and therefore smaller focussed samples.

Generally it can be observed that the sample population from this study reflects the demographic of the local area and corresponds with national statistics in terms of age and sexual/STI history (Health Protection Association; HPA, 2006). It should be noted due to the specific cultural demographic of the city where the research was undertaken the results should be considered with caution when making inferences for the rest of the country. However, the main findings reflected the main demographic of the area; the majority of participants were white and heterosexual. There were no differences in gender; the average age of the sample was approximately 25 years old, who are identified as the top end of the most at risk age group (LaMontagne et al., 2004). The size of the sample was small compared with the actual number of people presenting for Chlamydia screening on a yearly basis. Despite this the demographics reflect a group that is not dissimilar to the average population seen at sexual health clinics in the local area. However the figures for the
homosexual population were expected to be higher in light of recent increase in STIs in this group in the local area (HPA, 2006). It was observed that they do not reflect the overall attendance of homosexual men at the clinic.

Sexual History/STI History

Chlamydia was reported to be the most common STI that the sample had been diagnosed with before; this fits with the UK statistics (HPA, 2006). An interesting finding from the sexual history section was the average number of partners an individual had during the past three months. This averaged at just under two partners, this may be relevant to identify possible reasons for presenting at the clinic. Sexual health clinic staff have observed that Chlamydia is usually detected when it is passed from a female to a new male partner, as men are more likely to be symptomatic than women (Reitmeijer et al., 2002). Therefore a number of people may have presented at the clinic because they or their partner has symptoms as a result of changing partners. Furthermore another reason may be the transitional point between relationships may prompt individuals to seek a sexual health screen when considering alternative birth control methods in a new relationship (Parkes, Henderson & Wight, 2005; Gerbhardt, Kuyper & Greunsven 2003; Holland, Ramasanoglu, & Sharpe 1998).

Worry About STIs

The findings from the “worry about STIs” Likert scale showed that very few people did not worry about STIs. This shows that within the sample there was a level of awareness that STIs are a cause for concern. However this may be a biased result limited to the clinic population (i.e. people who attend the clinic are probably more likely to worry than those
who do not attend). For instance, Low et al., (2003) found that importance of STIs was found not to be important when carrying out research in an educational setting.

The descriptive data showed differences between people who worried about STI and those who did not for gender. However these differences were not found to be significant. A study by Mills et al. (2006) found that men and women’s experiences of receiving a diagnosis of Chlamydia were very different. Women tended to find it more upsetting than men, this was seen to be due to the concern about stigmatisation. In addition the diagnosis affected how they felt about themselves and how they felt others saw them. Conversely some men described joking about it with other males almost as if it were a “badge of honour” for them.

There was a significant difference in worry and the amount of partners in the last three months. People who had more sexual partners were more worried. Interestingly, individuals were worried regardless of whether they had attended the clinic before or not. This suggests that the trigger for the anxiety may be potential diagnoses rather than visiting the clinic per se. In addition people may also be worried due to the number of sexual partners they have had in recent months, here an expected diagnosis may be stronger even in the presence of no symptoms.

However Mills et al. (2006) found that most people were glad that they had taken part and attended for sexual health screen. Yet Dixon-woods et al. (2001) found that women’s willingness to access services is mediated by psychosocial factors such as embarrassment. This suggests attending the clinic may not be a pleasant experience. Duncan et al. (2001) found women reported typical stereotypes about the sort of person who got an STI and that
these stereotypes affected women’s expectation of sexual health clinic and initial reaction to a referral to a clinic was negative, which would explain why people were still worried if they had attended before. In the current study, the people that had attended the clinic before may have been worried about potential diagnosis or worried about attending the clinic where negative associations may be attached. This feeling may be strengthened if the person is already worried about the number of sexual partners they have had and influence how the person believes they are being perceived, e.g. “People may recognise me and know I have been before, I have had two sexual partners in the past month and may have an infection and people may think I am promiscuous and disgusting”.

**Stages of Change**

Overall the most usual Stage of Change for condom use was the Precontemplation stage. This may reflect the reason for actual attendance at the clinic, e.g. unprotected sex. When this was broken down into partner relationships it was found that people in regular relationships remained in Precontemplation and those in casual relationships were more likely to be in Preparation. This would support the research that those in a regular relationship are more likely to employ other methods of birth control and therefore less likely to use condoms (Hacker et al, 2005; Roye, 1999; Critelli & Suire, 1998; Cushman et al., 1998, Stark et al., 1998; Rosenthal et al., 1994; Pilchta et al., 1992). There are a number of explanations for this finding, such as the symbolic meaning of condoms and the potential threat to trust that may be introduced by suggesting using a condom to a regular partner. Such a suggestion may be received as an accusation of infidelity (Brown & Minichiello, 1994. Furthermore the application of safe sex may be incompatible with the romantic narrative of heterosexual relationships (Kirkman, Rosenthal & Smith, 1998). A further
explanation is that condom use may be less likely in regular relationships for more pragmatic reasons. Research suggests that as a regular relationship develops and intercourse occurs more frequently, sexual partners are likely to change from condoms to pill as their primary form of birth control (Glor & Severy, 1990).

When examining Stages of Change research into adolescents attending a sexual health clinic Hacker et al. (2005) found the majority were in Preparation stage for both pregnancy prevention and disease prevention. Perhaps this reflects the benefits of sex education within this age group. As adolescents are an important target group since pro-condom cognitions should ideally be established before the initiation of sexual activity (Krahe, Abraham, & Scheinberger-Olwiget, 2005) they would have continual information about sexual health targeted at them.

Stage of Change for seeking STI screening saw the majority of people in the Contemplation stage. This may reflect the actual point of the data collection as they were just about to get screened; therefore it would not make sense if they were in the Precontemplation stage. As many individuals have negative expectations (Duncan et al., 2001) of the clinic, the Contemplation stage may reflect the possibility that they may not want to commit to coming again if the experience is horrible, and any possible ambivalence about attending. However this is different from past research that has found when examining adolescents attending a sexual health clinic the majority were in Preparation stage of change for STI screening for all partner types (Banikarim et al., 2003). Again this may reflect the idea that adolescents may be more cognitively ready to change as a result of a constant stream of health promotion targeted at this group.
When comparing both Stage of Change for condoms and seeking STI screening it was found that, despite the majority of people being in Contemplation stage, there were more people in the later Stages of Change for seeking STI screening than there were for using condoms and that this difference had a significant result. Overall, it would appear for this sample people preferred using secondary prevention methods over primary. Further analysis showed that when considering Stages of Change for condom use a person was likely to be in the same Stage of Change for screening. However the findings showed that when looking at Stage of Change for STI screening the person was more likely to be in the Precontemplation stage for condom use. So this suggests if an individual is already using condoms then they are possibly seeking STI screening when they feel at risk and may have a responsible attitude to taking care of their sexual health. However if an individual is ready to seek STI screening they may not necessarily be using condoms for a number of reasons, a, they may be using an alternative method of contraception and/or in a regular relationship or b, they may be coming to get screened because have been prompted to either by being contact traced by a previous partner or by the presence of symptoms, not necessarily because of a conscious decision to look after one’s own health.

Furthermore this may support the discrepancy between health promotion and disease detection behaviours (Millar & Millar, 1996). The idea is that health promotion should be more easily taken up than disease detection due to the perceived threat in both behaviours. It was hypothesised that health promotion behaviours (condoms) are easier than disease detection (seeking screening) as they have less of a threat to a person’s health than disease detection. However this hypothesis is unsupported by the findings as it shows that people are less likely to use condoms but more likely to come for screening. An explanation for this could be that condoms are not seen as something that makes the individual more
healthy but is a direct reminder of the potential threat to one's health and therefore people may chose to avoid using them to manage this threat by using denial or avoidance. Furthermore there are a number of interpersonal issues with using condoms. Subsequently the individual has no choice but to use secondary prevention methods when symptoms appear. This provides further evidence for the relationship between Stage of Change for condoms and seeking STI screening, if the Stage of Change for getting screened does not mean the person is in the same Stage of Change for using condoms.

**Decisional Balance**

The Decisional Balance statements for both using condoms and seeking STI screening were rated by the majority of participants as important for the statements that outlined the advantages of these behaviours and as not important for the statements that outlined the disadvantages of these behaviours. These findings suggest that these people should be in the Action or Maintenance stage for these behaviours if people are to adopt a behaviour when the pros outweigh the cons (Prochaska & Velicer, 1997). However the majority of the sample were in the early Stages of Change for both using condoms and seeking STI screening.

One statement that did not fit the trend was the “It would make sex less spontaneous” as a disadvantage of condom use, this was not rated as not important as all the other disadvantages had been. Instead this was rated as moderately important. This highlights an important point about the reality of using condoms which the questionnaire has raised. In theory each participant is aware of the costs and benefits of the behaviour yet in practice they may feel that using condoms is not something that is considered in “the heat of the
moment" or perhaps under the influence if alcohol (Holland, Ramasanoglu, Scott, Sharpe, & Thompson, 1990b).

Further analysis showed that people who rated the advantages of using condoms as not important were more likely to be in the Precontemplation stage. Those who found the advantages extremely important had more people represented in the later Stages of Change but some individuals were still found to be in the Precontemplation stage. Being in the opposite ends of the Stages of Change when investigating the importance of the advantages fits with the idea that Decisional Balance influences progression through the Stages of Change (Prochaska et al., 1992) e.g. the more the pros outweigh the cons the more likely an individual is to adopt the behaviour. The unexpected finding of people who find advantages important and are in the Precontemplation stage rather than the Action or Maintenance stage may be due to alternative methods of birth control being used or indeed by the participants responding in a desirable fashion.

When examining the disadvantages there was not a significant relationship found between Stages of Change for condom use. Those who rated the disadvantages as not important were mainly in the Precontemplation stage suggesting that although they see the barriers to using condoms as unimportant they are not willing to adopt the behaviour. Furthermore those who rated disadvantages of using condoms as important, were represented not only in the Precontemplation stage but also over a quarter of this group were in the Preparation stage. This means that these people feel the disadvantages of using are important but that they are willing to use condoms despite this. This may highlight the complex nature of the decision to use a condom; the decision may not solely be based on Stage of Change and weighing up the pros and cons but in fact be influenced by a number of things, such as
knowledge and beliefs, attitudes towards condoms in relation to embarrassment and sexual pleasure, components of condom Self-efficacy, social norms of condom use and situational factors (Hacker et al. 2005; Parkes et al., 2005; Henderson et al., 2002; Santelli, Kouzis, & Hoover, 1996; Abraham & Sheeran, 1994). The implication of this finding is that working with people's cognitions on the disadvantages may be more beneficial than working with the cognitions on the advantages. People know the advantages of using condoms but still do not use them. Therefore perhaps highlighting the disadvantages and making them less important can help people move away from the earlier Stages of Change. As Banikarim et al., (2003) noted in their study that the cons of the behaviour exist even in the later Stages of Change in relation to seeking STI screening, allowing an individual to recognise the disadvantages exist and working on this may be beneficial.

Again Decisional Balance was investigated for seeking STI screening and further statistical tests were carried out to determine whether there was a relationship between these two variables. There was not a significant relationship found between these variables for advantages or disadvantages. Those who found the advantages of seeking screening not important were mainly in the early Stages of Change (Precontemplation, Contemplation). However so were those who rated the advantages as important but this group had more people represented in the later Stages of Change compared with the other two groups. Generally though these findings are what were expected, the people who do not see the advantage will not adopt the behaviour and those who do see the advantages will (Prochaska et al., 1992).

The majority of those who found the disadvantages of seeking screening were in the Precontemplation stage however they were also spread across all Stages of Change. This
may reflect that although people do feel the disadvantages are unimportant they adopt the behaviour anyway as they understand the importance of it

**Self-efficacy**

The results for Self-efficacy showed that people were more likely to be extremely sure about using condoms or seeking screening if they thought they were at risk. In addition, people were more sure about using condoms than they were about seeking STI screening. This is an interesting finding as Stage of Change has shown us that participants in this study were more likely to seek STI screening than they are to use a condom. Perhaps this again reflects the nature of the theoretical question, participants were either a, responding in a way they thought was most desirable or b, responding in what they believed to be how they would react but in reality they actually react differently. The concept of using a condom as a primary prevention method and seeking screening as a secondary prevention method appears to have benefits, especially if attending the clinic is perceived as a negative experience. Therefore one would expect people to perceive using a condom to be more beneficial than having to attend a sexual health clinic where they may be uncomfortable, embarrassed and have to wait a substantial amount of time. However, the findings from this sample have shown that they are more likely to use secondary prevention methods. Yet it is questionable whether this is a preferred mode of prevention or merely a last resort as primary prevention methods were disregarded.

Another hypothesis may be that people do not actually believe they are at risk, which may be an element of unrealistic optimism (Weinstein, 1983). This is where an individual shows selective focus and ignores their own risk-increasing behaviour. Therefore an individual
may focus on the times they use a condom and ignore the times that they do not use a condom.

Further analysis showed that there was not a relationship between Self-efficacy and Stages of Change. This is the opposite of findings by Stark et al. (1998) who found that higher levels of Self-efficacy meant a higher Stage of Change.

The current findings show that people who are sure about using condoms and seeking screening can be in any Stage of Change. This has major implications for health professionals working with this client group. If people were completing the questionnaires in a favourable light they may be responding to health professionals in a similar way. Therefore the health professional may talk to a patient, believe they are about to change their behaviour only for them to come back as they have put themselves in a risky situation again. Thus ensuring the rapid rate of infection continues.

**Anxiety**

The findings from the anxiety measure showed that overall just under half the sample were clinically anxious before examination. Other studies have shown that there is a lot of anxiety associated with STI testing, Mills et al. (2006), found that in their study on population screening that the invitation to be screened provoked symptoms of anxiety in some people and some had fleeting concerns whilst they were waiting about their test result and what they would do if it came back positive. However the majority of people were most anxious on receipt of their result. Kincey et al. (2003) also found that state anxiety was high when attending a sexual health clinic, and was comparable with the mean score
for a sample of pregnant women attending assessment appointment for potential foetal abnormality during pregnancy (Marteau & Bekker, 1992).

Research Questions

Is There a Difference in Stage of Change (SOC) for Positive Sexual Health Behaviour in Patients who are Asymptomatic Compared With Patients who are Symptomatic?

The statistical tests showed that there was no evidence that a patient is more likely to be in a further Stages of Change for condom use if they are asymptomatic or symptomatic. There are a number of explanations for this; the presence of symptoms is not perceived as a threat; therefore individual does not progress to further Stage of Change, or alternative methods of birth control are being used so condoms will not be used anyway. So when the patient is treated they will return to normal methods of practice. Finally movement of stage of readiness to change may be driven by anxiety. The descriptive analysis showed that over half the sample were classified as clinically anxious before they were examined, however past research has also outlined that people were most anxious when they received their results (Mills et al., 2006; Kincey et al., 2003). One hypothesis may be that patients who were symptomatic and received a diagnosis may have been extremely anxious and more likely to progress onto a further Stage of Change. However it is not known how anxious people were when they received their results and therefore this study cannot speculate any further.

Conversely there was a significant difference in Stage of Change for seeking STI screening. It appeared that people who were asymptomatic were mainly in the early Stages of Change
and people who were symptomatic were in the later Stages of Change. These would fit with the idea that if you have symptoms they are a constant reminder that something is wrong and that you need to do something about it.

Is There a Difference in Levels of Anxiety in Patients who are Asymptomatic Compared to Patients who are Symptomatic?

There were no differences observed in the anxiety scores between patients who were asymptomatic and those who were symptomatic. A similar finding was shown in a study by Kincey et al. (2003). They found that state anxiety was high whilst attending a clinic but there were no differences between those who had received a definite diagnosis and those who had to wait to receive their result, suggesting that other factors were influencing the high level of anxiety. Conversely, the current study has not taken into account that people could be anxious for different reasons. For example, symptomatic patients may be anxious because they have got physical signs that something is wrong and asymptomatic patients may be anxious because they are unsure about the state of their health due to the asymptomatic nature of Chlamydia. In addition, the findings suggested people who had more sexual partners were more likely to be worried about STIs, therefore they may be more anxious despite being asymptomatic.

Furthermore, the sample may be biased as they are already in the clinic, suggesting some level of worry or concern. This may tie into the stigma associated with attending the clinic and STIs in general (Duncan et al., 2001, Mills et al., 2006, Padgett, 2002). People may be worried about what people may think of them because they are attending a sexual health
Does Level of Anxiety at Initial Attendance Predict Stages of Change for Positive Sexual Health Behaviour?

It was found that level of anxiety at initial attendance did not predict Stage of Change for using condoms or seeking STI screening. To predict this relationship a much bigger sample would be required. What was expected was one of two things, either people with a high level of anxiety to be in the Precontemplation stage or in Maintenance stage. The reason for these differences may be related to the two types of coping with anxiety identified in the literature. Millar and Millar (1996) discussed repression -sensitisation in response to anxiety provoking stimuli. Repressors respond by avoiding the threat; sensitisers respond by approaching it (Bonnanno & Singer, 1990; Byrne, 1961). A person in the Precontemplation stage may be managing their anxiety by denying the risk to their health; this strategy offers a defence mechanism against any unwanted or intrusive thoughts about the nature of STIs and seeking screening. Conversely a person may be in the Maintenance stage as they manage their anxiety by seeking professional help. This may involve coming for regular screening and using protective behaviours and may manifest in obsessiveness and rumination. However the findings of the current study showed that despite level of anxiety patients could be in any Stage of Change for condoms or seeking STI screening as results were distributed across all stages.
Does an Individual's SOC for Positive Sexual Health Behaviour and Anxiety at Initial Attendance Predict not Coming Back for Treatment?

There was no evidence that Stage of Change for using condoms with a regular or casual partner and level of anxiety predicted non-return to the clinic. Looking more closely at the data there was weak evidence to suggest that people in the Contemplation stage were more likely not to return than people in the Preparation and Maintenance stages and that people less likely to use condoms were the ones more likely to return. This potential finding would need further investigation in order to be fully understood and interpreted.

Furthermore anxiety and Stage of Change for STI screening did not predict whether a participant would not return. These results were not expected and unfounded by the current literature. Someone with high anxiety is expected to be more likely to return, however this may be dependent on how they manage the anxiety. Perhaps people who avoid perceived threats are more likely not to return and someone who was overly concerned about their health more likely to come back. However as this is not known, this current study cannot speculate any further about why some people return and some people do not. Again focussing on Stage of Change one would expect to see people in early Stages of Change to not return and people in late Stages of Change to come back. However it appears that there is no set pattern to this. Reasons why people may not return could be because of the nature of the treatment e.g. those given medication but no definite diagnosis may feel that they do not have to come back. This could be especially true if coming back means a, receiving a proper diagnosis and b, having to contact partners as receiving diagnosis has been found to cause distress (Mills et al., 2006; Duncan et al., 2001) as well as having to contact trace previous partners (Duncan et al., 2001). Therefore not receiving a specific diagnosis may be
favourable to some individuals especially if they prefer to deny potentially distressing information.

*Does an Individual’s Stage of Change (SOC) for Positive Sexual Health Behaviour Change After Attending a Sexual Health Clinic?*

The results from this section highlighted the fluid nature of the Stage of Change, in that they can move forward or back at any time (Prochaska & DiClemente, 1982). The main significant results were for people in regular relationships for using condoms and general condom use. Another supporting finding for people using condoms less when utilising other methods of birth control is that 6 people stayed within the Precontemplation stage. Overall there were no observable trends in the movement apart from the movement appears to be random. This highlights the need for continuous reminders of sexual health and protective behaviours. One could imply from this piece of research that the movement backwards highlights an “out of sight, out of mind” attitude to positive sexual health behaviours and a need for further health promotion targeted at the right level to help assist Stage of Change to progress. Indeed research with adolescents (Hacker et al, 2005; Banikarim et al., 2001) has shown that they were in further Stages of Change when attending a sexual health clinic based in their high school. This population are likely to be the target of sexual education and sexual health campaigns and for this reason may be more likely further on in Stages of Change for positive sexual health behaviours.
Does an Individual's Level of Anxiety Change After Attending a Sexual Health Clinic?

There was a significant change in anxiety levels between the two phases, so much so that the mean anxiety score dropped from being clinically significant to within the normal range. This suggests that attending the clinic was a major factor in influencing the level of anxiety an individual was experiencing. There could be a number of reasons for the reduction in anxiety; such as not being in the clinic setting, the possibility of having an STI sorted by treatment or being reassured by a clear result. Mills et al. (2006) found although people were anxious at the time they attended the clinic, they were relieved after testing and glad that they took part and that the infection had been detected and treated. These findings are also consistent with what was found earlier in relation to patient symptoms, i.e. that just being in the clinic may be anxiety provoking for some individuals.

Does Level of Anxiety at Initial Attendance Predict Stages of Change for Positive Sexual Health Behaviour at 6 Week Follow up?

To address this research question descriptive data was used, this showed that people in the later Stages of Change at six week follow up were more likely to be anxious prior to examination. This very tentative finding suggests anxiety may push people along stages. For condoms, generally, it was found that anxiety could be an influencing factor and could aid Stages of Change in terms of sexual health. Also observed in Stages of Change for seeking STI screening, people with high anxiety at initial attendance were more likely to be in the later Stages of Change. Although the people with the highest anxiety scores were found to be still in Precontemplation. This may be explained by the different types of
coping with anxiety and avoidance of STI screening i.e. not attending the clinic may be a way of managing this anxiety.

Summary

The findings from the current study have highlighted that using condoms is a complex decision making process that other factors may influence, especially alternative methods of contraceptive use. Overall this sample were more likely to engage in secondary prevention methods rather than primary, however it is unknown if this is an informed choice or the result of engaging in risky sexual practices. Interestingly this study showed that people are aware of the importance of the advantages and disadvantages to positive sexual health behaviours however this does not have any bearing on what they put into practice e.g. individuals who think the behaviour has many advantages do not take it up, and conversely those who think the behaviour has many disadvantages may be thinking about taking it up. It appears that people already know the advantages of carrying out positive sexual health behaviours and therefore working with these may not promote behaviour change. However working on how much the disadvantages matter to the individual may be more advantageous. The discrepancy between what the individual thinks they will do and what they intend to do (as measured by the Stage of Change) was also observed for Self-efficacy.

The presence of symptoms did not influence stage of readiness to change for either positive sexual health behaviours at initial attendance nor did it influence level of anxiety at initial attendance. Furthermore anxiety did not predict Stage of Change for positive sexual health behaviours nor did anxiety and Stage of Change predict whether a patient would not return
either. Further investigation into individual’s responses to anxiety and coping may be necessary here.

The results also showed the level of movement between stages appeared to be random highlighting that Stages of Change are fluid and constant reminders of sexual health issues are necessary for change to be maintained (further discussion of this will be outlined in the Theoretical Implications section). As expected people attending the clinic were anxious at initial attendance and this anxiety dropped at six week follow up. There was also some evidence to suggest that anxiety at initial attendance may have influenced progression into further Stage of Change at 6 week follow up, however this evidence was limited.

Methodological considerations

The key strengths of this piece of research was that it endeavoured to investigate a clearly defined gap in the current knowledge in an important area of health psychology, in a clinical relevant field setting.

One of the main strengths of the study is the use of quantitative research methods. An advantage of this is that it allows results to be generalised to a wider population, however it must be noted that replication of the results in a wider study is recommended before any generalisations are made. Another strength is the use of a well researched theoretical model. The TTM lends itself well to quantitative methods; each component was able to be measured with a small set of questions that fit well within the remit of the questionnaire. By
having a clear set of variables future research that wishes to replicate these findings should be able to.

There are many studies that suggest the nature and sensitivity of this research area needs a more tentative approach seen in qualitative research methods (Black, 1994; Buston, Parry-Jones, Livingston, Bogan, & Wood, 1998); however it was felt that some participants may have preferred filling in a questionnaire privately about sexual health practices. Moreover, in a setting where they are expecting to be asked very personal and sensitive questions by a health professional face to face completing the questionnaire by comparison may not have seemed insensitive.

The researcher must also outline the practical benefits of utilising quantitative methods in this research. The potential recruitment difficulties anticipated with this sample warranted a tool that would collect the relevant information with as little commitment from the participant as possible. It was felt asking a patient to complete a questionnaire whilst they were waiting to be examined would produce a better response rate than asking patients to agree to a lengthy interview, especially if they were expecting to be seen as quickly as possible. In addition to this clinic resources were limited and it was deemed not feasible to occupy a much needed clinic room to conduct interviews with patients.

Furthermore the expected difficulties of the longitudinal design required a large amount of participants at Phase 1 in order for a reasonable sized sample at Phase 2 and Phase 3 after attrition rates had been taken into account. Based on past research in sexual health using follow ups, Parkes et al. (2005), des Rivières-Pigeon et al. (2004), Paxton (2002), Robinson et al. (2002), Rosser et al. (2002), Gielen et al.(2001), van Valkengoed et al.
(2002), Branson et al. (1998), Evers et al. (1998), Kiamb et al. (1998) and O'Leary et al. (1998), a follow up rate of 55-87% was estimated at 3 months, however the researcher was sceptical that this would be achieved even at 6 weeks. As the results showed both Phase 2 and 3 had a 14% response rate.

Although there are many advantages to conducting quantitative research, there are clearly benefits to applying qualitative methods in this particular research area. Further exploration is necessary in this area to get a clear understanding of the patients experience in this particular setting. One of the limitations if the current study is that no clear links have been established between the variables and there are many outside factors that clearly have a role. By using the TTM within a quantitative framework the results are only able to answer the questions the researcher has posed and does not address any gaps highlighted. A piece of qualitative research using the TTM as a guiding framework could provide support for a number of the interpretations made in this study. This will be discussed further in the future research section.

Another strength of the study was the measures used and the methods the researcher took to testing and validating these measure before beginning the research. A full literature review was undertaken, specific components were tested out with a small peer review sample, the final questionnaire pack was reviewed by a number of different health professional within the clinic and clinical psychologists within the researcher's academic department. Furthermore the questionnaire was then piloted on a small sample within the clinic setting before the data collection took place to test the feasibility of using the questionnaire within this setting. The feedback from the pilot resulted in a few amendments being made to the questionnaire.
Another strength of the study was the breakdown of Stage of Change for condoms depending on partner status. This was to take into account the expected variability between alternative methods of birth control as seen in other research studies (e.g. Hacker et al., 2005; Santelli et al., 1996). As the descriptive section outlined that over half the sample were in a regular relationship and half of these participants stated that they were using the contraceptive pill as a method of contraception it was felt the breakdown of the categories was justified.

However there are a number of drawbacks of the measures that need to be mentioned; all measures employed within this study were self reported by nature. This may have resulted in a social desirability bias. The results from the Decisional Balance and Self-efficacy items may have shown this as most answers appeared to be the “ideal” answers. This would suggest that majority of people should be in later Stages of Change for positive sexual health behaviours however when investigating Stages of Change this was not seen to be the case. This brings the reliability and validity of the responses to these statements into question. Sagrestano, Rogers, Kittleson, & Sarvela, (2005) measured Self-efficacy in relation to condom use and used three different areas which dominated the research; a, efficacy to talk or negotiate with a partner about condom use, b, efficacy to know how to use condoms properly and c, efficacy to use condoms consistently. The present study used a small scenario which was felt to be simple and quick to complete, therefore may not have fully addressed Self-efficacy.

Furthermore despite the lengths the researcher took in order to devise the sexual health questionnaire it is worth highlighting the limitations of using an ad hoc approach. A thorough investigation of the psychometric properties of the questionnaire was not carried
out. Examining the reliability and validity of the measures in more detail may have been beneficial. However it was felt that this process would involve a number of lengthy processes. Using an inter-rater reliability method may have been useful to iron out any potential pitfalls of the questionnaire that were not identified before putting it into use. Also applying another method of validity checks rather than using face validity alone may have helped with devising the questionnaire and highlighted some of the aforementioned problems.

A longitudinal design was employed to investigate the changes over time in individuals' stage of readiness to change particular behaviours. This was a gap highlighted by the limited research in this subject area and initially anticipated to be an identified strength of the design. However the poor response rates at Phase 2 and Phase 3 were lower than expected and paradoxically became a weakness in the study. The longitudinal design required a substantial amount of participants in order to carry out the proposed statistical tests. However this was not possible due to the limited amount of data received.

The poor response rate of Phase 2 was particularly disappointing as this was the Phase where the participant, researcher and staff at the clinic have clearly failed to meet the procedure outlined. The purpose of Phase 2 was to examine the participants’ responses after they had been treated for suspected or confirmed infection. The arbitrary nature of this Phase has possibly contributed in part to the failings. As some patients are treated on the same day and some sent away and treated when they return it became confusing to staff when to give the patient the second questionnaire pack and as a consequence it was often left in the notes. Additionally it was unclear how many participants had been offered to complete the second questionnaire pack but then declined. The researcher was informed by
a member of clinic staff that patients who were treated within the same day often informed the member of staff when given the second questionnaire pack to complete that they had already done it. This generated confusion amongst staff and patients alike and ultimately led to the poor response rate and this Phase being dropped from the analysis.

Equally the response rate for Phase 3 was lower than expected. In order to tackle the difficulty in recruiting participants on their return to the clinic the third questionnaire pack was given to the participant to take away from the clinic and return in 6 weeks time through the post. However this method still posed problems; there may have been a number of participants who were inclined to throw the questionnaires away in order to separate themselves from the sexual health clinic.

One of the major weaknesses with this study’s design was the inability to control for extraneous variables, such as the treatment the patient received. The specific intervention given by the clinic was not operationalised therefore the results after this point should be interpreted with caution as we cannot account for why individuals progressed onto a further or previous Stage of Change. In order to control for some of the variability the participants were recruited from within the same trust, therefore the same procedure would be followed. The nature of the setting of the research would have made it difficult to control these factors without seriously disrupting the service and as outlined previously the researcher has strict restraints placed on the scope and flexibility to conduct research within the NHS. In addition, the researcher could not control for the various different reasons why a patient may attend for a sexual health screen. After discussion with key members of clinic staff it was felt that there may be a number of different reasons why people may decide to attend, these could range from deciding to take responsibility for one’s health, worry or concern as
a result of seeing a health promotion campaign, knowing someone else who has had an STI or indeed engaging in risky sexual behaviours. In addition a person may come to the clinic because they have received notification to do so from a previous partner and finally they may attend because they have physical symptoms. All these reasons may reflect a different cognitive process for the individual in terms of their decision to engage in positive sexual health behaviours. However it was felt that trying to control for these variables would have firstly been difficult to operationalise and secondly limited the sample size.

Conversely attempting to limit the amount of extraneous variables by applying strict inclusion criteria may have enabled a power calculation to be applied in the initial stages of the research proposal. The lack of a power calculation to provide an indication of sample size was a limitation of this particular design. An estimate of 200 participants was eventually unobtainable as the number of participants recruited was 118. Consequently this impacted on the number of participant responses at Phase 2 and 3 of the study.

As mentioned previously the limited numbers in the research posed problems for the design and subsequently impacts on the generalisability of the results. As the sample was small and drawn from a specific population the results should be attributed with caution to other populations. Also it is possible that the researcher sampled in such a way that non heterosexuals were under represented, e.g. most data collection was carried out during walk-in clinics rather than during scheduled appointments which may be preferred by homosexual patients as they are identified as an at risk group (HPA, 2006).

Furthermore as with any study that requests volunteers to become participants this study is not able to access anyone who does not volunteer. There could be a commonality between
those who do not wish to be involved but this is something that is not measurable. It means however that the results and conclusions from analysis of those who do become participants cannot be equally applied to those who did not.

This issue is particularly salient in this area as those who do not access the service may be in effect the ones who need to the most. Furthermore those who do not return for treatment are of particular interest as they are putting themselves and others at greater risk of developing serious consequences as a result of untreated infection. A particular strength of this study is that it has tried to tackle this difficult issue. Investigating whether there is a relationship between anxiety and Stage of Change at initial attendance and whether an individual does not come back may be able to piece together a bit of the puzzle on how to target this problem. Unfortunately the results did not find any such relationship however there was some evidence to suggest some relationship between Stage of Change and non-return, although further replication of these results on a larger scale is required before any findings can be generalised.

Theoretical Implications

A theoretical strength of this study was that it was designed specifically to fill a gap in the literature on anxiety and behaviour change in relation to Chlamydia.

The present study applied the TTM to understand how individuals adopt health protective behaviours such as using condoms and seeking STI screening. Despite the reported success of the TTM, this study highlights some of the pitfalls of the model in relation to sexual
health. Specifically the interaction between Decisional Balance, Self-efficacy and Stages of Change, these components of the model are said to be intrinsically linked to one another and help facilitate change (Prochaska et al., 1992). There was no interaction between Stages of Change and Decisional Balance and Stages of Change and Self-efficacy in the way one would expect from the past literature.

However one useful finding has shown that people in different types of relationship can indeed be in different Stages of Change for certain behaviours. Again these findings are supported by past research by Banikarim et al. (2003) and Grimley et al. (1995). This has an implication for controlling the spread of infection as an individual who uses a condom consistently with one partner and not with another is still putting themselves and their partners at risk of infection and therefore cognitions about certain behaviours need to be tackled to bring them in line with one another.

It is felt that this highlights the complex and arbitrary nature of decision making when considering sexual health practices and that the TTM alone cannot account for these other factors. However this study did not use all the components of the TTM, the fifth component of the model, the Processes of Change was considered to be too lengthy for its inclusion in the present study. Further investigation of these processes may broaden understanding in this subject. These are the behaviours that help facilitate the change such as having appropriate support (see Appendix 1, Table 1.1).

However, as outlined previously, the model is useful in helping us understand how people adopt new behaviours however it does not always explain the reasons why. Perhaps suggesting that the model may benefit from adaptation to take into account the complicated
nature of behaviour change in this area. Furthermore there is an abundance of evidence to suggest the model lends itself well to condom use (as seen in the HIV literature), little research has been conducted with its application to screening behaviours and Chlamydia. For example asking an individual if they have been seeking screening every time they thought they were at risk for the past six months to see if they are in the Maintenance stage may be inappropriate and not reflective of real life situation. If you screen every time you think you are at risk then that is all that is required of an individual to adopt the behaviour. Banikarim et al. (2003) saw similar problems where the theory does not cross over into real life, the question “Do you seek screening every time you have unprotected sex with your main partner?” was found to be impractical to real life situations.

Despite the lack of consistent findings with past research using the TTM of the present study, one must take into consideration the limited numbers within the sample. Although it may be misleading to predict the expected results would be seen with a larger population and the same difficulties with interpreting the results would still stand. For instance, for the people who do not return the findings only show what stage they are in and does not explain the reasons why they are in that particular stage initially and indeed if this influences the non-return. However taking into account the difficulty in accessing these individuals, the TTM is useful in aiding specific interventions to help progression onto a further Stage of Change and hopefully promote a return to the clinic. Research on intervention programmes using the TTM have shown positive results (Hacker et al., 2005). Further research in this area is necessary to clarify the proposed hypotheses about the “why” questions.
In terms of the findings specifically related to anxiety, there was evidence to suggest that individuals experience a significant amount of anxiety when attending the sexual health clinic, which adds to the literature on this topic (Duncan et al., 2001; Kincey et al., 2003; Mills et al., 2006). However the main drawback of this research is there are no clear links to why people are anxious. There was no evidence of the presence of symptoms influencing anxiety and likewise anxiety did not influence Stages of Change. However anxiety did decrease at 6 week follow up suggesting that attending the clinic is anxiety provoking in itself. Further research examining individuals coping strategies for anxiety in relation to sexual health may provide some clearer answers.

**Clinical Implications**

The current study supports the need for psychological models to inform professionals about patient behaviour in relation to sexual health. The findings of this study have shown support for Stages of Change being fluid and susceptible to changing all the time. The implication of this is the importance of continuing to facilitate change through health promotion campaigns and clinic intervention programmes. By identifying an appropriate model, an intervention can then be applied and used. There have been a number of studies who have utilised the TTM and devised an intervention on its principles. Hacker et al. (2005) identified the individuals’ Stage of Change and the Process of Change that influences forward movement and then employed a counselling technique that was deemed most appropriate for the stage and process. The study reported to be successful at moving people forward. Creating a screening tool to identify patients’ stage of readiness to change
would be useful for clinic practice. This would enable the health professional to engage in
the most effective technique to provide the most success for the patient.

These techniques may also help prevent the high drop-out rate in patient returns. Patients
may be more inclined to return for treatment or follow up care involving contact tracing if
their motivation to change is increased at initial attendance. The more patients return to
sexual health services the more chance there is of reducing the spread of infection.

This would involve extensive training of staff in the relevant therapeutic techniques. The
barriers to this would be the cost to the NHS in terms of time and finance to train health
professionals. Hacker et al. (2005) identified that most professionals using the TTM based
intervention did not feel confident in using the model until at least seven months of
application with regular training in the techniques. However this should be considered by
the amount of time and effort invested in people who continually return for treatment as
they do not change their behaviour.

Furthermore what this study has shown is that patients that come into the clinic are
significantly anxious. This may effect how much they will respond to information given at
the clinic and how they cope with their anxiety may effect subsequent sexual health
behaviour, e.g. may chose to avoid sexual health clinic’s as they are associated with
negative experiences in the past. Therefore a screening tool for anxiety may also be useful
to understand the role of anxiety on clinic attendance and subsequent behaviour.

Paradoxically though, sexual health services are understaffed, under funded and cannot
meet the demands of increasing motivation in patients. The government need to devote
more time and money into sexual health services in the long term rather than a quick fix. Plans to improve Chlamydia screening in GP practices and primary care settings may relieve some of the pressure from sexual health services however if infection rates are not reduced initially it will still put pressure on sexual health clinics to treat and follow up these patients.

Training staff in Primary care settings may help deal with the demands of adverse effects of STI screening such as distress and anxiety (Mills et al., 2006). Furthermore the Chlamydia screening needs to be more widely accepted by the general public and de-stigmatised. Creating a pathway for STI screening via GP surgeries may help in doing this, allowing patients to be screened, treated and followed up at their local surgery may serve two goals, firstly cut through the element of stigma associated with attending a sexual health clinic and secondly promote follow up rates. The patient is more likely to return back to GP if not in the first instance for results in the future for another possibly unrelated problem.

Ma and Clarke (2005) interviewed policymakers, consultants in sexual and reproductive health and primary care professionals and found that Chlamydia screening is feasible in general practice and self-taken vulval swabs or urine tests would reduce clinicians workload. The implications of GP surgeries taking hold of some of the demands would be that sexual health services could become more specialist and concentrate on changing behaviours and treating complex issues for patients that continually present with repeat infections rather than managing routine screening.

This research clearly identifies an essential role for clinical psychology within sexual health services. A clinical psychologist’s role within this setting could be to organise and help
train staff in the psychological techniques required to aid behaviour change and maintain progress, manage patient anxiety and help facilitate behaviour change in patients that may return to the clinic as a result of continually engaging in risky behaviours. The process of creating a formulation and possible hypotheses about why an individual is unable to make certain changes regarding their sexual health may be useful in breaking down the perceived stigma in this area. By giving patients permission to think about their sexual health behaviour in a non-judgemental environment they may be more inclined to make links to the root of their behaviour and shifts to changing it. Furthermore by identifying and managing psychological distress within this population psychologists may be able to reduce maladaptive coping strategies and promote ones that reduce infection rates.

The wider implication of this research is obviously the long term cost to the NHS, if clear messages about positive sexual health behaviours help facilitate change, then infections will be caught and treated early. This means less instances of repeated infections, which in turn will reduce the impact of costly cycles of IVF treatment to people who may have become infertile as a result of Chlamydia infection.

**Future Research**

Given the dramatic increase in STI rates health authorities acknowledge the importance of focussing on promotion of better sexual health strategies. Therefore further research into this area will not only provide wider understanding but inform government policy.
There are a number of potential avenues for future research that have come out of this study. Firstly replication of the present study may be beneficial. By addressing some of the methodological pitfalls and targeting a larger sample there may be some more interesting findings observed. This would specifically mean increasing recruitment at Phase 2 and Phase 3, having a clearer procedure for Phase 2 of the study and not recruiting in a biased way. The main findings that may be subject to change given a bigger sample may be; the level of anxiety at initial attendance may influence stage of change at initial attendance, anxiety and Stage of Change at initial attendance may predict who will return to the clinic and anxiety at initial attendance predicting Stage of Change at six week follow. For the last research question there will probably be stronger evidence for this tentative finding in the current study.

Furthermore as mentioned previously the Processes of Change were a component of the TTM that were left out of this original study. This component could either be included into the current design or investigated within its own right. Chacko et al., (2004) investigated Processes of Change and found that both behavioural and experiential processes were involved in the adoption of seeking STI screening and that intervention promoting both processes were necessary. Further research into this component would provide greater understanding on what helps facilitate change and allow specific interventions to be developed. Specifically understanding the processes that are important to sexual health behaviour may also help identify the essential components to adapting the TTM to a more specific version.

These findings have highlighted how it would be useful to know how an individual responds to anxiety and how this may influence particular Stage of Change. Investigating
this may be useful in particular looking at how repression- sensitisation process coping styles may influence positive sexual health behaviours (Bonnanno & Singer, 1990; Byrne, 1961). Furthermore understanding the specific reasons for anxiety and how much variability there is between individuals may also help provide detailed information for a new model of understanding specific to sexual health.

Perhaps most importantly further qualitative pieces of research in this area are necessary to explore people's views and ideas specific to changing sexual behaviour. This would help identify prominent themes that would help build more specific models around behaviour change and sexual health. As outlined before, the TTM is a well-researched model but does not provide a fully comprehensive approach to explaining sexual behaviour. It appears that further research would enable this model to be adapted or new models to be tested and validated.

Conclusion

Despite the lack of research findings of the current study providing support for the TTM, it is still felt that the model is useful in relation to sexual health and devising intervention programmes within sexual health clinics in the future.

The findings suggest that this area is particularly sensitive and many individuals endure a significant amount of psychological distress when attending a sexual health clinic. This highlights the need for some form of monitoring process to ensure these individuals
respond to the anxiety in ways that are not detrimental to their future health e.g. avoiding STI testing altogether.

This study clearly indicates a more active role for clinical psychology within research but also as a clinician. There are a number of useful roles a clinical psychologist could bring to a sexual health clinic including individual work and training of staff.

Future research into sexual health should coincide with the current priorities in the NHS for patient involvement and patient focussed provision of care. By obtaining patient views and beliefs about sexual health practices the government can implement policies and procedures that encompass the most effective strategies to tackle rising problems.
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APPENDIX 1

- Processes of Change Table
Table 1.1
Processes of Change (Prochaska et al., 1992)

<table>
<thead>
<tr>
<th>Experiential</th>
<th>Explanation</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conscious Raising (Increasing awareness)</td>
<td>Increasing information about oneself and the problem</td>
<td>I recall information people have given me on using condoms</td>
</tr>
<tr>
<td>Dramatic Relief (Emotional arousal)</td>
<td>Experiencing and expressing emotions about one’s problems and solutions</td>
<td>I react emotionally to warnings about sexual health</td>
</tr>
<tr>
<td>Social Liberation (Environmental opportunities)</td>
<td>Noticing social changes that support personal changes</td>
<td>I find society changing in ways that make it easier to obtain condoms</td>
</tr>
<tr>
<td>Self Re-evaluation (Self reappraisal)</td>
<td>Assessing how one feels and thinks about oneself with respect to the problem behaviour</td>
<td>Having unprotected sex makes me feel disappointed in myself</td>
</tr>
<tr>
<td>Environmental Re-evaluation (Social reappraisal)*</td>
<td>Combines both affective and cognitive assessments of how the presence or absence of a personal habit affects one’s social environment.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Behavioural</th>
<th>Explanation</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulus control (Re-engineering)</td>
<td>Restructuring ones environment or experience so that problem stimuli are less likely and positive stimuli are more likely to occur</td>
<td>I have condoms readily available to me</td>
</tr>
<tr>
<td>Helping Relationships (Supporting)</td>
<td>Being open and trusting about problems with people who care</td>
<td>I have someone who listens when I need to talk about these issues</td>
</tr>
<tr>
<td>Contingency management (Rewarding)</td>
<td>Rewarding oneself or being rewarded by others for changes</td>
<td>I reward myself when I look after my sexual health</td>
</tr>
<tr>
<td>Self Liberation (Committing)</td>
<td>Choosing and committing to act or believing in one’s ability to change</td>
<td>I make commitments to look after my sexual health</td>
</tr>
<tr>
<td>Counter Conditioning (Substituting)*</td>
<td>Requires learning of healthier behaviours that can substitute for problem behaviours.</td>
<td></td>
</tr>
</tbody>
</table>

Based on Chacko et al. (2004)
* Process not used in study as deemed inappropriate in relation to STI screening

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APPENDIX 2

PILOT MEASURES

- Decisional Balance Questionnaire
- Pilot Question Sheet
Decisional Balance Questionnaire

Relationship Status:

- Regular e.g. married, partner
- Casual e.g. single

1. Listed below are several possible advantages of using condoms. How important is each of these statements to you in deciding whether or not to use condoms for either vaginal or anal sex using the following 5 point scale?

1 = Not important
2 = Slightly important
3 = Moderately important
4 = Very Important
5 = Extremely Important

- I would feel safer 1 2 3 4 5
- It would build trust 1 2 3 4 5
- I'd feel more responsible 1 2 3 4 5
- Sex would feel cleaner 1 2 3 4 5
- Sex would be less worrisome 1 2 3 4 5
2. Listed below are several possible disadvantages of using condoms. How important is each of these statements to you in deciding whether or not to use condoms for either vaginal or anal sex using the following 5 point scale?:

1 = Not important  
2 = Slightly important  
3 = Moderately important  
4 = Very Important  
5 = Extremely Important

-It would be a lot of trouble  
1 2 3 4 5

-It would make sex less spontaneous  
1 2 3 4 5

-My partner would be angry  
1 2 3 4 5

-It would make sex less exciting  
1 2 3 4 5

-Sex would take longer  
1 2 3 4 5
3. Listed below are several possible advantages of seeking STI screening. How important is each of these statements to you in deciding whether or not to seek screening when you feel at risk using the following 5 point scale?

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would not have to worry about having STI</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I would not have to worry about spreading infection unknowingly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I would have a sense of control over my fertility</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I would feel more responsible</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I'd feel more responsible for my health</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>If I sought screening I would be taking care of myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Screening is easy to access</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Treatment is quick and effective</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My partner would know I had been faithful</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Screening helps build trust</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My partner is agreeable to seeking screening</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>If I sought screening I would have more self respect</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>It would make me feel clean</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
4. **Listed below are several possible disadvantages of seeking STI screening. How important is each of these statements to you in deciding whether or not to seek screening when you feel at risk using the following 5 point scale?**

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don't know where to go for testing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don't have time/it takes a lot of time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don't feel comfortable with the staff at testing site</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don't want to know the results</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I do not need to be tested</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I'm not at risk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am worried about confidentiality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am afraid of losing my partner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People may recognise me at the test site</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinic workers may tell my business to others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 = Not important  
2 = Slightly important  
3 = Moderately important  
4 = Very Important  
5 = Extremely Important
Pilot Question Sheet

Once you have read through the questionnaire pack could you please complete these questions, thank you.

AGE: Please circle: MALE FEMALE

1. Was the questionnaire interesting to look at? YES NO
   If you answered no do you have any suggestions for improvement?

2. Did you like the look of the writing used in the questionnaire? YES NO
   If you answered no do you have any suggestions for improvement?

3. Were the words big enough for you to read them? YES NO
   If you answered no do you have any suggestions for improvement?

4. Could you understand the language used in the questions? YES NO
   If you answered no do you have any suggestions for improvement?
5. Were the directions given on each page easy to follow?  YES  NO

If you answered no do you have any suggestions for improvement?


6. Did you feel the questionnaire was too long in length?  YES  NO

If you answered no do you have any suggestions for improvement?


7. Do you think you could answer these questions truthfully?  YES  NO

If you answered no do you have any suggestions for improvement?


8. Do you feel you could complete this questionnaire easily?  YES  NO

If you answered no do you have any suggestions for improvement?


Any other comments?


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APPENDIX 3

ETHICAL APPROVAL DOCUMENTS

- Ethics Committee Approval
- Trust Research Governance Approval
Full title of study: Chlamydia screening: Stages of change, anxiety and sexual behaviour.

REC reference number: 06/Q1104/79

Thank you for your letter dated 7th August 2006 in which you inform the committee that you have secured a room or private area for the completion of the questionnaires to be used for this study.

The committee also acknowledges receipt of the following documents:

- Revised participant information sheet version 2 dated 5th August 06

It is noted that the revisions have been made at the request of the committee to include details of why the research is being carried out.

I can confirm that the committee are satisfied with the revisions made and wish you success with your study

06/Q1104/79 Please quote this number on all correspondence

Yours sincerely
Re: Chlamydia screening: Stages of change, anxiety and sexual behaviour.

I am pleased to notify you formally that this study has been approved by the Trust and may now proceed.

The Trust conducts all research in accordance with the requirements of the Research Governance Framework, and the NHS Intellectual Property Guidance. In undertaking this study you agree to comply with all reporting requirements, systems and duties of action put in place by the trust to deliver research governance, and you must comply with the Trust information management and data protection policies. In addition, you agree to accept the responsibilities associated with your role that are outlined within the Research Governance Framework as follows:

- The study follows the agreed protocol
- Participants should receive appropriate care while involved in the study
- The integrity and confidentiality of clinical, other records and data generated by the study will be maintained
- All adverse events must be reported to the Trust and other authorities specified in the protocol
- Any suspected misconduct by anyone involved in the study must be reported

The Trust is required to return information on the progress of studies to the National Research Register, and to report research findings. We will, therefore, ask you every 6 months for such updates. This includes full reference of any publications arising from the project.

I would like to wish you every success with this project.

Yours sincerely
APPENDIX 4

- Poster for waiting areas in the sexual health clinics
PATIENT NOTICE

We are currently carrying out some research here in the clinic.

We are looking for volunteers to take part in our study.

This will involve completing a set of questionnaires.

If you are interested please let the receptionist know.

We would really appreciate your time.

Thank you.
APPENDIX 5

QUESTIONNAIRE PACK

- Patient Information Sheet
- Patient Consent Form
- Questionnaire Pack 1
- Questionnaire Pack 2
- Questionnaire Pack 3
Patient Information Sheet

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take your time to read the following information carefully. Talk to others about the study if you wish. Ask me if there is anything that is not clear or you would like more information. Take time to decide whether or not you wish to take part.

PLEASE READ THE FOLLOWING

What is the title of the research?

Chlamydia screening: Stages of change, anxiety and sexual behaviour.

What is the purpose of the study?

To get an understanding about people’s experiences when attending a sexual health clinic for a Chlamydia test. The study aims to find out:

1. Whether the experience of attending the clinic makes people anxious.
2. If the experience of attending the clinic helps to change attitudes towards sexual health topics (e.g. coming to the clinic, using condoms).

By finding out these things we hope to improve the service.

Can I take part?

- UNFORTUNATELY IF YOU ARE UNDER THE AGE OF 18, YOU ARE NOT ELIGIBLE TO TAKE PART IN THIS STUDY.
- YOU MUST BE ABLE TO READ ENGLISH TO TAKE PART IN THIS STUDY
- IF YOU HAVE TAKEN PART IN THIS STUDY BEFORE YOU ARE NOT PERMITTED TO TAKE PART AGAIN.

Why have I been chosen?
Because you are attending for tests in the sexual health clinic. This will include having a test for a sexually transmitted infection called Chlamydia.

What will happen to me if I take part?
If you agree to take part in this study, you will be asked to complete a questionnaire that will take approximately 15 minutes. You will be asked to do either one of these 3 options:

- Option 1:
  - Complete a questionnaire today whilst you are sitting in the waiting room
  - Complete a second questionnaire in six weeks time and return it back to the clinic.
- Option 2:
  - Complete a questionnaire today whilst you are sitting in the waiting room.
Complete a second questionnaire when you return to the clinic for your results a week later.

Complete a third questionnaire in six weeks time and return it back to the clinic.

**Option 3:**

Complete a questionnaire today whilst you are sitting in the waiting room.

Complete a second questionnaire today after seeing the Health Adviser.

Complete a third questionnaire in six weeks time and return it back to the clinic.

The option you are given will depend on the outcome of your physical examination. Taking part in this study will not change what happens to you in the clinic. Your tests results will not be determined by completing the questionnaire.

**Do I have to take part?**

It is up to you if you decide whether to take part. If you do, you will be given this information sheet to keep and be asked to sign a consent form, which you will also be given a copy to keep. You are still free to withdraw at any time and without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive.

**What do I have to do?**

You will be asked to answer some simple questions about your sexual health. You are expected to complete the questionnaires honestly; however you do not have to answer any questions that you do not wish to. As well as completing questionnaires here in the clinic you will be given a questionnaire to take away with you. This questionnaire must not be completed until six weeks after the first questionnaire is completed. You will be given an option to leave a contact number for the researcher to contact you in six weeks to remind you to complete the final questionnaire and return it to the clinic.

**What are the other possible disadvantages of taking part?**

By taking part in this study you may wish to share personal information about your sexual health. This may make you feel uncomfortable and raise issues that you would like further help with. If this is so, help and advice will be given.

**What are the possible benefits of taking part?**

We hope that the information we collect will help people who use sexual health services in the future.

**Will my taking part be kept confidential?**

Yes. All the information obtained from this research study will be anonymous. This means that the questionnaires will have an anonymous clinic number attached. There will be no need to give your name and address at any time during the study. You will be given the option to leave a contact number with the researcher for them to remind you to return the final questionnaire. You do not have to do this and you may refuse to give this
information if you wish to do so. All procedures will be compliant with the Data Protection Act 1998. In addition no medical records will be used in the current research.

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed.
Patient Advice and Liaison Services (PALS) 01482 303966

What happens when the research study stops?

The research is being undertaken as part of an academic qualification in Clinical Psychology. When all questionnaires are analysed findings will be written up and the results will be shared with peers and colleagues at the University of Hull as part of the Doctorate in Clinical Psychology programme.

What will happen to the results of the research study?

The anonymous data will be analysed by researchers in the Clinical Psychology Department at the university. The results will be given to staff at the sexual health clinic and it will be published so other sexual health clinics can benefit from the information. You may also contact the university and request a copy of the results at any point in the future (see contact details below).

Who is organising and funding the research?

The study is being conducted as part of a professional post-graduate training at the University of Hull.

Who has reviewed the study?

The study has been reviewed by members of the Hull and East Riding Local Ethics Committee.

Contact for Further Information
You may contact me directly if there is anything that is not clear or if you would like more information.
Principle Researcher: Emma Lewis
E-mail address: E.J.Lewis@psy.hull.ac.uk

To access study results contact: 01482 464117

Thank you for your time!
CONSENT FORM

Title of Project: Chlamydia screening: Stage of change, anxiety and sexual behaviour.

Name of Researcher: Emma Lewis

Please initial box

1. I confirm that I have read and understand the information sheet dated 5th August 2006 (Version 2) for the above study.

2. I have had the opportunity to consider the information and ask questions.

3. I have had any questions answered satisfactorily.

4. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason, without my medical care or legal rights being affected.

5. I agree to take part in the above study.

6. I agree to give my telephone number.

Patient to date and initial this form

__________________________________  __________________________

Date Initial

Name of Person taking consent (if different from researcher)

__________________________________  __________________________

Date Signature

Researcher

__________________________________  __________________________

Date Signature

When completed, 1 for the patient; 1 for the researcher site file; 1 (original) to be kept in clinic notes
PLEASE READ BEFORE YOU TURN OVER

This questionnaire consists of a series of questions regarding your sexual practices, use of contraceptives, your attitudes towards condoms and getting tested for sexually transmitted infections (STIs).

The questionnaire is divided up into a number of different sections. Everybody is required to complete some of the sections and others may depend on the type of sexual relationship you are in now.

Please answer the questions in relation to how you feel right now, at this moment.

In order to complete the questionnaire, follow the directions in the boxes at the top and bottom of each page. These will direct you to the sections that are relevant to you. If you need help with the directions please ask the researcher or a member of staff.

In order to ensure confidentiality please do not write your name anywhere on the questionnaire.


**SECTION A**

Section A is to be completed by everyone.

<table>
<thead>
<tr>
<th>Age</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Education:**

| Left school without any qualifications |
| Left School at 16 with GCSES or equivalent (NVQs) |
| Left College/Sixth Form with A, AS, A2 level or equivalent (HNC, HND) qualifications |
| Higher Education or equivalent: e.g. University degree |

**Ethnicity:**

| White |
| Mixed |
| Black |
| African |
| Black |
| Caribbean |
| Asian |
| Chinese |
| Other |

**Brief sexual history**

<table>
<thead>
<tr>
<th>What is your sexual orientation?</th>
<th>Heterosexual</th>
<th>Gay/Lesbian</th>
<th>Bisexual</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What age were you when you first had sex?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How many sexual partners have you had in the last three months?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How much do you worry about sexually transmitted infections on a scale of 1-5? (1 being not at all, 5 being a lot)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Have you attended the clinic before?</td>
</tr>
<tr>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Have you ever had any of the following sexually transmitted infections/diseases?</td>
</tr>
<tr>
<td>Chlamydia</td>
</tr>
<tr>
<td>Gonorrhoea</td>
</tr>
<tr>
<td>Herpes</td>
</tr>
<tr>
<td>Syphilis</td>
</tr>
<tr>
<td>Warts</td>
</tr>
<tr>
<td>HIV</td>
</tr>
<tr>
<td>Thrush</td>
</tr>
<tr>
<td>Bacterial Vaginosis (Women only)</td>
</tr>
<tr>
<td>Trichomoniasis Vaginalis (TV)</td>
</tr>
<tr>
<td>NSU/Non specific infection</td>
</tr>
<tr>
<td>What is your relationship status at present?</td>
</tr>
<tr>
<td>Regular: In a regular relationship with someone</td>
</tr>
<tr>
<td>E.g. -boyfriend/girlfriend</td>
</tr>
<tr>
<td>-with a partner</td>
</tr>
<tr>
<td>-married</td>
</tr>
<tr>
<td>Casual: Have a casual partner(s)</td>
</tr>
<tr>
<td>E.g. -someone you have sex with occasionally</td>
</tr>
<tr>
<td>-one night stand</td>
</tr>
<tr>
<td>Both: In a regular relationship and have casual partner(s)</td>
</tr>
<tr>
<td>What is your method of contraceptive used?</td>
</tr>
<tr>
<td>Condoms</td>
</tr>
<tr>
<td>Contraceptive Pill</td>
</tr>
<tr>
<td>Injection Pill</td>
</tr>
<tr>
<td>Implant (Implanon)</td>
</tr>
<tr>
<td>Coil</td>
</tr>
<tr>
<td>Cap</td>
</tr>
<tr>
<td>Withdrawal</td>
</tr>
<tr>
<td>Nothing</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>
SECTION B

Please complete Section B if you have a regular partner.
If you have a casual partner(s) please proceed to Section C.
If you have both regular and casual partner(s) please complete Sections B and C
of the form.

1. When you have sex with your regular partner how often do you use a
   condom?
   - All the time □ Go to Q 2.
   - Sometimes or almost every time □ Go to Q 3.
   - Almost never or never □ Go to Q 4.

2. How long have you been using a condom every time you had sex?
   - More than six months □ Go to the end of
     Section B
   - 6 months or less □

3. In the next six months how likely is it that you will start using a condom
every time?
   - I will □ Go to Q 5.
   - I won't / I haven’t decided □ Go to the end of
     Section B

4. In the next six months how likely is it that you will start using a condom
every time?
   - I will □ Go to the end of
     Section B
   - I wont/ I haven’t decided □

5. In the next thirty days how likely is it that you will start using a condom
every time?
   - I will □ Go to the end of
     Section B
   - I wont □

END OF SECTION B
If you have a causal partner(s) as well as a regular partner please proceed to
Section C
If not please proceed to Section D of the form.
SECTION C

Please complete this section if you have a casual partner(s).
Please complete this section if you have a casual partner(s) as well as a regular partner(s).

1. When you have sex with a casual partner(s) how often do you use a condom?
   - All the time 📝 Go to Q 2.
   - Sometimes or almost every time 📝 Go to Q 3.
   - Almost never or never 📝 Go to Q 4.

2. How long have you been using a condom every time you had sex with a casual partner(s)?
   - More than six months 📝 Go to Section D
   - 6 months or less 📝

3. In the next six months how likely is it that you will start using a condom every time you have sex with a casual partner(s)?
   - I will 📝 Go to Q 5.
   - I won’t / I haven’t decided 📝 Go to Section D

4. In the next six months how likely is it that you will start using a condom every time you have sex with a casual partner(s)?
   - I will 📝 Go to Section D
   - I won’t / I haven’t decided 📝

5. In the next thirty days how likely is it that you will start using a condom every time you have sex with a casual partner(s)?
   - I will 📝 Go to Section D
   - I won’t / I haven’t decided 📝

Please proceed to Section D
SECTION D

Section D is to be completed by everyone.

1. When you have unprotected sex how often do you seek a STI test when you think you are at risk?
   - All the time [ ] Go to Q 2.
   - Sometimes or almost every time [ ] Go to Q 3.
   - Almost never or never [ ] Go to Q 4.

2. How long have you been seeking a STI test every time you thought you were at risk?
   - More than six months [ ] Go to Section E
   - 6 months or less [ ]

3. In the next six months how likely is it that you will start seeking a STI test every time you think you are at risk?
   - I will [ ] Go to Q 5.
   - I won’t / I haven’t decided [ ] Go to Section E

4. In the next six months how likely is it that you will start seeking a STI test every time you think you are at risk?
   - I will [ ] Go to Section E
   - I wont/ I haven’t decided [ ]

5. In the next thirty days how likely is it that you will start seeking a STI test every time you think you are at risk?
   - I will [ ] Go to Section E
   - I wont [ ]

Please proceed to Section E
SECTION E

Section E is to be completed by everyone.

1. Listed below are several possible advantages of using condoms. How important is each of these statements to you in deciding whether or not to use condoms for either vaginal or anal sex?

Please answer using the following 5 point scale:
1 = Not important
2 = Slightly important
3 = Moderately important
4 = Very Important
5 = Extremely Important

Please circle your answer

- I would feel safer  
  1  2  3  4  5

- It would build trust 
  1  2  3  4  5

- I'd feel more responsible 
  1  2  3  4  5

- Sex would feel cleaner 
  1  2  3  4  5

- Sex would be less worrisome 
  1  2  3  4  5

Please proceed to Section E Continued
2. Listed below are several possible disadvantages of using condoms. How important is each of these statements to you in deciding whether or not to use condoms for either vaginal or anal sex?

Please answer using the following 5 point scale:

1 = Not important
2 = Slightly important
3 = Moderately important
4 = Very Important
5 = Extremely Important

Please circle your answer.

- It would be a lot of trouble
- It would make sex less spontaneous
- My partner would be angry
- It would make sex less exciting
- Sex would take longer

Please proceed to Section F
SECTION F

Section F is to be completed by everyone.

1. Listed below are several possible advantages of seeking a STI test. How important is each of these statements to you in deciding whether or not to seek a STI test when you feel at risk?

Please answer using the following 5 point scale:

1 = Not important
2 = Slightly important
3 = Moderately important
4 = Very Important
5 = Extremely Important

Please circle your answer

- I would not have to worry about having STI
- I would not have to worry about spreading infection unknowingly
- I would have a sense of control over my fertility
- I’d feel more responsible for my health
- It would make me feel clean

1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5
SECTION F CONTINUED

Section F is to be completed by everyone.

2. Listed below are several possible disadvantages of seeking a STI test. How important is each of these statements to you in deciding whether or not to seek a STI test when you feel at risk?

Please answer using the following 5 point scale:

1 = Not important
2 = Slightly important
3 = Moderately important
4 = Very Important
5 = Extremely Important

Please circle your answer

- It takes a lot of time
- I don't feel comfortable with the staff at testing site
- I don't want to know the results
- I'm not at risk
- People may recognise me at the test site

Please proceed to Section G
SECTION G

Section G is to be completed by everyone.

1. Please read the following scenario:

You are about to have sex and you feel that you could potentially be at risk from sexually transmitted infection. How sure are you that you would use a condom?

Please rate this answer by circling one of the following responses

1 = extremely sure
2 = very sure
3 = sure
4 = slightly sure
5 = not sure

2. Please read the following scenario:

You have had unprotected sex, you do not have any symptoms but you feel at risk. How sure are you that you would seek a STI test?

Please rate this answer by circling one of the following responses

1 = extremely sure
2 = very sure
3 = sure
4 = slightly sure
5 = not sure

Please proceed to Section H
**SECTION H**

Section H is to be completed by everyone.

Six-item short-form of the state scale of the Spielberger State-Trait Anxiety Inventory (STAI)

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the most appropriate number to the statement to indicate how you feel right now, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel calm</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. I am tense</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. I feel upset</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. I am relaxed</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. I feel content</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. I am worried</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

End of questionnaire. Please return to the researcher or a member of staff.

THANK YOU FOR YOUR TIME
Sexual Health Questionnaire 2

PLEASE READ BEFORE YOU TURN OVER

This questionnaire consists of a series of questions regarding your sexual practices, use of contraceptives, your attitudes towards condoms and getting tested for sexually transmitted infections (STIs).

The questionnaire is divided up into a number of different sections. Everybody is required to complete some of the sections and others may depend on the type of sexual relationship you are in now.

Please answer the questions in relation to how you feel right now, at this moment.

In order to complete the questionnaire, follow the directions in the boxes at the top and bottom of each page. These will direct you to the sections that are relevant to you. If you need help with the directions please ask the researcher or a member of staff.

In order to ensure confidentiality please do not write your name anywhere on the questionnaire.
**SECTION A**

Section A is to be completed by everyone.

<table>
<thead>
<tr>
<th>Age</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Did you have any symptoms when you first came into the clinic?**

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**What route did you take through the clinic?**

A: You were examined and came back to be treated on a separate day

B: You were examined and treated on the same day

**How much do you worry about sexually transmitted infections on a scale of 1-5?**

(1 being not at all, 5 being a lot)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION B

Please complete Section B if you have a regular partner.
If you have a casual partner(s) please proceed to Section C.
If you have both regular and casual partner(s) please complete Sections B and C of the form.

1. When you have sex with your regular partner how often do you use a condom?
   - All the time □ Go to Q 2.
   - Sometimes or almost every time □ Go to Q 3.
   - Almost never or never □ Go to Q 4.

6. How long have you been using a condom every time you had sex?
   - More than six months □ Go to the end of Section B
   - 6 months or less □

7. In the next six months how likely is it that you will start using a condom every time?
   - I will □ Go to Q 5.
   - I won’t / I haven’t decided □ Go to the end of Section B

8. In the next six months how likely is it that you will start using a condom every time?
   - I will □ Go to the end of Section B
   - I won’t / I haven’t decided □

9. In the next thirty days how likely is it that you will start using a condom every time?
   - I will □ Go to the end of Section B
   - I won’t □

END OF SECTION B

If you have a casual partner(s) as well as a regular partner please proceed to Section C.
If not please proceed to Section D of the form.
SECTION C

Please complete this section if you have a casual partner(s).
Please complete this section if you have a casual partner(s) as well as a regular partner.

1. When you have sex with a casual partner(s) how often do you use a condom?
   - All the time
   - Sometimes or almost every time
   - Almost never or never

2. When you have sex with a casual partner(s) how often do you use a condom?
   - All the time
   - Sometimes or almost every time
   - Almost never or never

3. When you have sex with a casual partner(s) how often do you use a condom?
   - All the time
   - Sometimes or almost every time
   - Almost never or never

4. How long have you been using a condom every time you had sex with a casual partner(s)?
   - More than six months
   - 6 months or less

5. In the next six months how likely is it that you will start using a condom every time you have sex with a casual partner(s)?
   - I will
   - I won't / I haven’t decided

4. In the next six months how likely is it that you will start using a condom every time you have sex with a casual partner(s)?
   - I will
   - I won't / I haven’t decided

5. In the next thirty days how likely is it that you will start using a condom every time you have sex with a casual partner(s)?
   - I will
   - I won't / I haven’t decided

Please proceed to Section D
SECTION D

Section D is to be completed by everyone.

1. When you have unprotected sex how often do you seek a STI test when you think you are at risk?
   - All the time
   - Sometimes or almost every time
   - Almost never or never

2. How long have you been seeking a STI test every time you thought you were at risk?
   - More than six months
   - 6 months or less

3. In the next six months how likely is it that you will start seeking a STI test every time you think you are at risk?
   - I will
   - I won’t / I haven’t decided

4. In the next six months how likely is it that you will start seeking a STI test every time you think you are at risk?
   - I will
   - I won’t/ I haven’t decided

5. In the next thirty days how likely is it that you will start seeking a STI test every time you think you are at risk?
   - I will
   - I won’t

Please proceed to Section E
SECTION E

Section E is to be completed by everyone.

1. Listed below are several possible advantages of using condoms. How important is each of these statements to you in deciding whether or not to use condoms for either vaginal or anal sex?

Please answer using the following 5 point scale:
1 = Not important
2 = Slightly important
3 = Moderately important
4 = Very Important
5 = Extremely Important

Please circle your answer

- I would feel safer 1 2 3 4 5
- It would build trust 1 2 3 4 5
- I'd feel more responsible 1 2 3 4 5
- Sex would feel cleaner 1 2 3 4 5
- Sex would be less worrisome 1 2 3 4 5
Section E is to be completed by everyone.

2. Listed below are several possible disadvantages of using condoms. How important is each of these statements to you in deciding whether or not to use condoms for either vaginal or anal sex?

Please answer using the following 5 point scale:
1 = Not important
2 = Slightly important
3 = Moderately important
4 = Very Important
5 = Extremely Important

Please circle your answer

- It would be a lot of trouble
- It would make sex less spontaneous
- My partner would be angry
- It would make sex less exciting
- Sex would take longer

Please proceed to Section F
SECTION F

Section F is to be completed by everyone.

1. Listed below are several possible advantages of seeking a STI test. How important is each of these statements to you in deciding whether or not to seek a STI test when you feel at risk?

Please answer using the following 5 point scale:

1 = Not important
2 = Slightly important
3 = Moderately important
4 = Very Important
5 = Extremely Important

Please circle your answer

- I would not have to worry about having STI
  1  2  3  4  5

- I would not have to worry about spreading infection unknowingly
  1  2  3  4  5

- I would have a sense of control over my fertility
  1  2  3  4  5

- I'd feel more responsible for my health
  1  2  3  4  5

- It would make me feel clean
  1  2  3  4  5

Please proceed to Section F Continued
SECTION F CONTINUED

Section F is to be completed by everyone.

2. Listed below are several possible disadvantages of seeking a STI test. How important is each of these statements to you in deciding whether or not to take a STI test when you feel at risk?

Please answer using the following 5 point scale:

1 = Not important
2 = Slightly important
3 = Moderately important
4 = Very important
5 = Extremely important

Please circle your answer

- It takes a lot of time
- I don't feel comfortable with the staff at the testing site
- I don't want to know the results
- I'm not at risk
- People may recognise me at the test site

Please proceed to Section G
SECTION G

Section G is to be completed by everyone.

3. Please read the following scenario:

You are about to have sex and you feel that you could potentially be at risk from sexually transmitted infection. How sure are you that you would use a condom?

Please rate this answer by circling one of the following responses

1 = extremely sure
2 = very sure
3 = sure
4 = slightly sure
5 = not sure

4. Please read the following scenario:

You have had unprotected sex, you do not have any symptoms but you feel at risk. How sure are you that you would seek a STI test?

Please rate this answer by circling one of the following responses

1 = extremely sure
2 = very sure
3 = sure
4 = slightly sure
5 = not sure

Please proceed to Section H
SECTION H

Section H is to be completed by everyone.

Six-item short-form of the state scale of the Spielberger State-Trait Anxiety Inventory (STAI)

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the most appropriate number to the statement to indicate how you feel right now, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel calm</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I am tense</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I feel upset</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I am relaxed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I feel content</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. I am worried</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

End of questionnaire. Please return to the researcher or a member of staff.

THANK YOU FOR YOUR TIME
PLEASE READ BEFORE YOU TURN OVER

This questionnaire consists of a series of questions regarding your sexual practices, use of contraceptives, your attitudes towards condoms and getting tested for sexually transmitted infections (STIs).

The questionnaire is divided up into a number of different sections. Everybody is required to complete some of the sections and others may depend on the type of sexual relationship you are in now.

Please answer the questions in relation to how you feel right now, at this moment.

In order to complete the questionnaire, follow the directions in the boxes at the top and bottom of each page. These will direct you to the sections that are relevant to you.

In order to ensure confidentiality please do not write your name anywhere on the questionnaire.

If you have any questions or concerns about filling in this questionnaire, please ring 01482 464117.

If you have any worries about sexually transmitted infections, please ring 01482 336336.
**SECTION A**

Section A is to be completed by everyone.

<table>
<thead>
<tr>
<th>Age</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Brief sexual history**

<table>
<thead>
<tr>
<th>How many sexual partners have you had in the last three months?</th>
<th>No</th>
<th>Yes</th>
<th>How many times?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you ever had any of the following sexually transmitted infections/diseases?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlamydia</td>
<td>No</td>
<td>Yes</td>
<td>How many times?</td>
</tr>
<tr>
<td>Gonorrhoea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herpes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syphilis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thrush</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bacterial Vaginosis (Women only)</td>
<td>No</td>
<td>Yes</td>
<td>How many times?</td>
</tr>
<tr>
<td>Trichomoniasis Vaginalis (TV)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSU/ Non specified infection</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How much do you worry about sexually transmitted infections on a scale of 1-5? (1 being not at all, 5 being a lot)

<table>
<thead>
<tr>
<th>How much do you worry about sexually transmitted infections on a scale of 1-5? (1 being not at all, 5 being a lot)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What is your relationship status at present?

| Regular: In a regular relationship with someone  
| E.g. -boyfriend/girlfriend  
| -with a partner  
| -married  
| Casual: Have a casual partner(s)  
| E.g. -someone you have sex with occasionally  
| -one night stand  
| Both: In a regular relationship and have casual partner(s) |

<table>
<thead>
<tr>
<th>What is your method of contraceptive used?</th>
<th>Regular partner</th>
<th>Casual partner(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condoms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contraceptive Pill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Injection Pill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cap</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withdrawal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nothing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Was your Chlamydia test from the clinic positive?  

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
</table>

What were you treated for anything else?  
Please specify
SECTION B

Please complete Section B if you have a regular partner.
If you have a casual partner(s) please proceed to Section C.
If you have both regular and casual partner(s) please complete Sections B and C of the form.

1. When you have sex with your regular partner how often do you use a condom?
   - All the time
   - Sometimes or almost every time
   - Almost never or never

10. How long have you been using a condom every time you had sex?
   - More than six months
   - 6 months or less

11. In the next six months how likely is it that you will start using a condom every time?
   - I will
   - I won’t / I haven’t decided

12. In the next six months how likely is it that you will start using a condom every time?
   - I will
   - I wont/ I haven’t decided

13. In the next thirty days how likely is it that you will start using a condom every time?
   - I will
   - I wont

END OF SECTION B

If you have a casual partner(s) as well as a regular partner please proceed to Section C
If not please proceed to Section D of the form.
SECTION C

Please complete this section if you have a casual partner(s).
Please complete this section if you have a casual partner(s) as well as a regular partner.

1. When you have sex with a casual partner(s) how often do you use a condom?
   - All the time
   - Sometimes or almost every time
   - Almost never or never

   Go to Q 2.

2. How long have you been using a condom every time you had sex with a casual partner(s)?
   - More than six months
   - 6 months or less

   Go to Section D

3. In the next six months how likely is it that you will start using a condom every time you have sex with a casual partner(s)?
   - I will
   - I won’t / I haven’t decided

   Go to Q 5.

4. In the next six months how likely is it that you will start using a condom every time you have sex with a casual partner(s)?
   - I will
   - I won’t / I haven’t decided

   Go to Section D

5. In the next thirty days how likely is it that you will start using a condom every time you have sex with a casual partner(s)?
   - I will
   - I won’t / I haven’t decided

   Go to Section D

Please proceed to Section D
SECTION D

Section D is to be completed by everyone.

1. When you have unprotected sex how often do you seek a STI test when you think you are at risk?
   - All the time □ Go to Q 2.
   - Sometimes or almost every time □ Go to Q 3.
   - Almost never or never □ Go to Q 4.

2. How long have you been seeking a STI test every time you thought you were at risk?
   - More than six months □ Go to Section E
   - 6 months or less □

3. In the next six months how likely is it that you will start seeking a STI test every time you think you are at risk?
   - I will □ Go to Q 5.
   - I won’t / I haven’t decided □ Go to Section E

4. In the next six months how likely is it that you will start seeking a STI test every time you think you are at risk?
   - I will □ Go to Section E
   - I won’t / I haven’t decided □

5. In the next thirty days how likely is it that you will start seeking a STI test every time you think you are at risk?
   - I will □ Go to Section E
   - I won’t □

Please proceed to Section E
Section E is to be completed by everyone.

1. Listed below are several possible advantages of using condoms. How important is each of these statements to you in deciding whether or not to use condoms for either vaginal or anal sex?

Please answer using the following 5 point scale:
1 = Not important
2 = Slightly important
3 = Moderately important
4 = Very Important
5 = Extremely Important

Please circle your answer

- I would feel safer 1 2 3 4 5
- It would build trust 1 2 3 4 5
- I'd feel more responsible 1 2 3 4 5
- Sex would feel cleaner 1 2 3 4 5
- Sex would be less worrisome 1 2 3 4 5

Please proceed to Section E Continued
Section E is to be completed by everyone.

2. Listed below are several possible disadvantages of using condoms. How important is each of these statements to you in deciding whether or not to use condoms for either vaginal or anal sex?

Please answer using the following 5 point scale:
1 = Not important
2 = Slightly important
3 = Moderately important
4 = Very Important
5 = Extremely Important

Please circle your answer

- It would be a lot of trouble: 1 2 3 4 5
- It would make sex less spontaneous: 1 2 3 4 5
- My partner would be angry: 1 2 3 4 5
- It would make sex less exciting: 1 2 3 4 5
- Sex would take longer: 1 2 3 4 5

Please proceed to Section F
SECTION F

Section F is to be completed by everyone.

1. Listed below are several possible advantages of seeking a STI test. How important is each of these statements to you in deciding whether or not to seek a STI test when you feel at risk?

Please answer using the following 5 point scale:

1 = Not important
2 = Slightly important
3 = Moderately important
4 = Very Important
5 = Extremely Important

Please circle your answer

- I would not have to worry about having STI 1 2 3 4 5
- I would not have to worry about spreading infection unknowingly 1 2 3 4 5
- I would have a sense of control over my fertility 1 2 3 4 5
- I'd feel more responsible for my health 1 2 3 4 5
- It would make me feel clean 1 2 3 4 5

Please proceed to Section F Continued
3. Listed below are several possible disadvantages of seeking a STI test. How important is each of these statements to you in deciding whether or not to a STI test when you feel at risk?

Please answer using the following 5 point scale:

1 = Not important
2 = Slightly important
3 = Moderately important
4 = Very Important
5 = Extremely Important

Please circle your answer

- It takes a lot of time
- I don't feel comfortable with the staff at testing site
- I don't want to know the results
- I'm not at risk
- People may recognise me at the test site

Please proceed to Section G
SECTION G

Section G is to be completed by everyone.

5. Please read the following scenario:

You are about to have sex and you feel that you could potentially be at risk from sexually transmitted infection. How sure are you that you would use a condom?

Please rate this answer by circling one of the following responses

1 = extremely sure
2 = very sure
3 = sure
4 = slightly sure
5 = not sure

6. Please read the following scenario:

You have had unprotected sex, you do not have any symptoms but you feel at risk. How sure are you that you would seek a STI test?

Please rate this answer by circling one of the following responses

1 = extremely sure
2 = very sure
3 = sure
4 = slightly sure
5 = not sure

Please proceed to Section H
SECTION H

Section H is to be completed by everyone.

Six-item short-form of the state scale of the Spielberger State-Trait Anxiety Inventory (STAI)

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the most appropriate number to the statement to indicate how you feel right now, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I feel calm</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>I am tense</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>I feel upset</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>I am relaxed</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>I feel content</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>I am worried</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

End of questionnaire. Please return to the researcher or a member of staff.

THANK YOU FOR YOUR TIME
APPENDIX 6

STATISTICAL INFORMATION

- SPSS Output for Comparison of Sites
- SPSS Output for Research Question 3
- SPSS Output for Research Question 4
Table 2.1: Comparison of sites

<table>
<thead>
<tr>
<th></th>
<th>Site 1 (%)</th>
<th>Site 2 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>25.26</td>
<td>24.95</td>
</tr>
<tr>
<td>SD</td>
<td>7.81</td>
<td>7.50</td>
</tr>
<tr>
<td>Range</td>
<td>18-48</td>
<td>18-44</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>54/93 (58.1)%</td>
<td>10/20 (50)%</td>
</tr>
<tr>
<td>Female</td>
<td>39/93 (41.9)%</td>
<td>10/20 (50)%</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>88/95 (92.6)%</td>
<td>20/20 (100)%</td>
</tr>
<tr>
<td>Mixed</td>
<td>2/95 (2.1)%</td>
<td>-</td>
</tr>
<tr>
<td>Black</td>
<td>3/95 (3.2)%</td>
<td>-</td>
</tr>
<tr>
<td>Chinese</td>
<td>1/95 (1.1)%</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>1/95 (1.1)%</td>
<td>-</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left school without any qualifications</td>
<td>10/94 (10.6)%</td>
<td>1/20 (5.0)%</td>
</tr>
<tr>
<td>Left school with GCSEs</td>
<td>37/94 (39.4)%</td>
<td>7/20 (35.0)%</td>
</tr>
<tr>
<td>Left college with A levels</td>
<td>13/94 (13.8)%</td>
<td>5/20 (25.0)%</td>
</tr>
<tr>
<td>Higher Education</td>
<td>34/94 (36.2)%</td>
<td>7/20 (35.0)%</td>
</tr>
<tr>
<td><strong>Sexual Orientation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterosexual</td>
<td>87/93 (93.5)%</td>
<td>20/20 (100)%</td>
</tr>
<tr>
<td>Gay</td>
<td>3/93 (3.1)%</td>
<td>-</td>
</tr>
<tr>
<td>Bisexual</td>
<td>3/93 (3.1)%</td>
<td>-</td>
</tr>
<tr>
<td><strong>Relationship Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td>55/94 (58.5)%</td>
<td>15/20 (75.0)%</td>
</tr>
<tr>
<td>Casual</td>
<td>36/94 (38.3)%</td>
<td>5/20 (25.0)%</td>
</tr>
<tr>
<td>Both</td>
<td>3/94 (3.2)%</td>
<td>-</td>
</tr>
<tr>
<td><strong>Age when first had sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>16.10</td>
<td>16.47</td>
</tr>
<tr>
<td>SD</td>
<td>2.11</td>
<td>1.93</td>
</tr>
<tr>
<td><strong>No. of sexual partners in the past 3 months</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>2.00</td>
<td>1.21</td>
</tr>
<tr>
<td>SD</td>
<td>3.23</td>
<td>0.79</td>
</tr>
<tr>
<td><strong>Worry about STI's</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all</td>
<td>8/97 (8.2)%</td>
<td>1/20 (5.0)%</td>
</tr>
<tr>
<td>A little</td>
<td>7/97 (7.2)%</td>
<td>5/20 (25.0)%</td>
</tr>
<tr>
<td>Somewhat</td>
<td>30/97 (30.9)%</td>
<td>8/20 (40.0)%</td>
</tr>
<tr>
<td>Quite a bit</td>
<td>27/97 (27.8)%</td>
<td>-</td>
</tr>
<tr>
<td>A lot</td>
<td>25/97 (25.8)%</td>
<td>6/20 (30.0)%</td>
</tr>
<tr>
<td>STAI Anxiety Score</td>
<td>48.82</td>
<td>46.84</td>
</tr>
<tr>
<td>SD</td>
<td>16.08</td>
<td>16.04</td>
</tr>
<tr>
<td></td>
<td>Site 1 (%)</td>
<td>Site 2 (%)</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------------</td>
<td>------------------</td>
</tr>
<tr>
<td><strong>Attended the clinic before</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>47/96 (49.0)</td>
<td>-</td>
</tr>
<tr>
<td>No</td>
<td>49/96 (51.0)</td>
<td>20/20 (100)</td>
</tr>
<tr>
<td><strong>Had Chlamydia before</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>22/88 (25.0)</td>
<td>7/20 (35.0)</td>
</tr>
<tr>
<td>No</td>
<td>66/88 (75.0)</td>
<td>13/20 (65.0)</td>
</tr>
<tr>
<td><strong>Had Gonorrhea before</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>2/79 (2.5)</td>
<td>-</td>
</tr>
<tr>
<td>No</td>
<td>77/79 (97.5)</td>
<td>19/19 (100)</td>
</tr>
<tr>
<td><strong>Had Herpes before</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6/80 (7.5)</td>
<td>-</td>
</tr>
<tr>
<td>No</td>
<td>74/80 (92.5)</td>
<td>19/19 (100)</td>
</tr>
<tr>
<td><strong>Had Syphilis before</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1/78 (1.3)</td>
<td>-</td>
</tr>
<tr>
<td>No</td>
<td>77/78 (98.7)</td>
<td>18/18 (100)</td>
</tr>
<tr>
<td><strong>Had Warts before</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>13/84 (15.3)</td>
<td>1/20 (5.3)</td>
</tr>
<tr>
<td>No</td>
<td>70/84 (82.4)</td>
<td>18/19 (94.7)</td>
</tr>
<tr>
<td><strong>HIV</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4/79 (5.1)</td>
<td>-</td>
</tr>
<tr>
<td>No</td>
<td>75/79 (94.9)</td>
<td>19/19 (100)</td>
</tr>
<tr>
<td><strong>Had Bacterial Vaginosis before</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4/67 (6.0)</td>
<td>-</td>
</tr>
<tr>
<td>No</td>
<td>63/67 (94.0)</td>
<td>15/15 (100)</td>
</tr>
<tr>
<td><strong>Had TV before</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1/73 (1.4)</td>
<td>-</td>
</tr>
<tr>
<td>No</td>
<td>72/73 (98.6)</td>
<td>18/18 (100)</td>
</tr>
<tr>
<td><strong>Had NSU before</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7/75 (9.3)</td>
<td>-</td>
</tr>
<tr>
<td>No</td>
<td>68/75 (90.7)</td>
<td>18/18 (100)</td>
</tr>
<tr>
<td><strong>Condom use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With regular partner</td>
<td>20/53 (37.7)</td>
<td>5/8 (62.5)</td>
</tr>
<tr>
<td>With casual partner</td>
<td>26/53 (49.1)</td>
<td>1/8 (12.5)</td>
</tr>
<tr>
<td>With both</td>
<td>7/53 (13.2)</td>
<td>2/8 (25.0)</td>
</tr>
<tr>
<td><strong>Contraceptive pill</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With regular partner</td>
<td>28/42 (66.7)</td>
<td>7/10 (70.0)</td>
</tr>
<tr>
<td>With casual partner</td>
<td>12/42 (28.6)</td>
<td>1/10 (10.0)</td>
</tr>
<tr>
<td>With both</td>
<td>2/42 (4.8)</td>
<td>2/10 (20.0)</td>
</tr>
<tr>
<td><strong>Nothing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With regular partner</td>
<td>11/15 (73.3)</td>
<td>4/5 (80.0)</td>
</tr>
<tr>
<td>With casual partner</td>
<td>3/15 (20.0)</td>
<td>1/5 (20.0)</td>
</tr>
<tr>
<td>With both</td>
<td>1/15 (6.7)</td>
<td>-</td>
</tr>
<tr>
<td>SOC for condoms with regular partner</td>
<td>Site 1 (%)</td>
<td>Site 2 (%)</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>Precontemplation</td>
<td>30/61 (49.2)</td>
<td>12/17 (70.6)</td>
</tr>
<tr>
<td>Contemplation</td>
<td>10/61 (16.4)</td>
<td>4/17 (23.5)</td>
</tr>
<tr>
<td>Preparation</td>
<td>10/61 (16.4)</td>
<td>-</td>
</tr>
<tr>
<td>Action</td>
<td>6/61 (9.8)</td>
<td>-</td>
</tr>
<tr>
<td>Maintenance</td>
<td>5/61 (8.2)</td>
<td>1/17 (5.9)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOC for condoms with casual partner</th>
<th>Site 1 (%)</th>
<th>Site 2 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplation</td>
<td>5/47 (10.6)</td>
<td>-</td>
</tr>
<tr>
<td>Contemplation</td>
<td>7/47 (14.9)</td>
<td>1/2 (50.0)</td>
</tr>
<tr>
<td>Preparation</td>
<td>26/47 (55.3)</td>
<td>-</td>
</tr>
<tr>
<td>Action</td>
<td>2/47 (4.3)</td>
<td>-</td>
</tr>
<tr>
<td>Maintenance</td>
<td>7/47 (14.9)</td>
<td>1/2 (50.0)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SOC for general condom use</th>
<th>Site 1 (%)</th>
<th>Site 2 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplation</td>
<td>32/87 (36.8)</td>
<td>12/19 (63.2)</td>
</tr>
<tr>
<td>Contemplation</td>
<td>14/87 (16.1)</td>
<td>5/19 (26.3)</td>
</tr>
<tr>
<td>Preparation</td>
<td>26/87 (29.9)</td>
<td>-</td>
</tr>
<tr>
<td>Action</td>
<td>5/87 (5.7)</td>
<td>1/19 (5.3)</td>
</tr>
<tr>
<td>Maintenance</td>
<td>10/87 (11.5)</td>
<td>1/19 (5.3)</td>
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<table>
<thead>
<tr>
<th>SOC for STI screening</th>
<th>Site 1 (%)</th>
<th>Site 2 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplation</td>
<td>12/94 (12.8)</td>
<td>5/19 (26.3)</td>
</tr>
<tr>
<td>Contemplation</td>
<td>27/94 (28.7)</td>
<td>7/19 (36.8)</td>
</tr>
<tr>
<td>Preparation</td>
<td>17/94 (18.1)</td>
<td>2/19 (10.5)</td>
</tr>
<tr>
<td>Action</td>
<td>19/94 (20.2)</td>
<td>3/19 (15.8)</td>
</tr>
<tr>
<td>Maintenance</td>
<td>19/94 (20.2)</td>
<td>2/19 (10.5)</td>
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Research Question 3: Does Level of Anxiety Predict Stages of Change for Positive Sexual Health Behaviour

Table 3.1: Ordinal Regression

<table>
<thead>
<tr>
<th>Stages of change for condoms with a regular partner (N = 74)</th>
<th>Estimate</th>
<th>Std. Error</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Precontemplation</td>
<td>-.090</td>
<td>.712</td>
<td>.016</td>
<td>1</td>
<td>.899</td>
<td>-1.485</td>
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<tr>
<td>Contemplation</td>
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<td>.718</td>
<td>1.067</td>
<td>1</td>
<td>.302</td>
<td>-.665</td>
</tr>
<tr>
<td>Preparation</td>
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<td>.736</td>
<td>3.562</td>
<td>1</td>
<td>.059</td>
<td>-.053</td>
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<tr>
<td>Action</td>
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<td>.788</td>
<td>7.619</td>
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<td>.014</td>
<td>.140</td>
<td>1</td>
<td>.708</td>
<td>-.032</td>
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Table 3.2: Ordinal Regression

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<th>Stages of change for condoms with a casual partner (N = 45)</th>
<th>Estimate</th>
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<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Precontemplation</td>
<td>-2.699</td>
<td>.989</td>
<td>7.453</td>
<td>1</td>
<td>.006</td>
<td>-4.637</td>
</tr>
<tr>
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<td>.920</td>
<td>3.146</td>
<td>1</td>
<td>.076</td>
<td>-3.434</td>
</tr>
<tr>
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<td>.886</td>
<td>.549</td>
<td>1</td>
<td>.459</td>
<td>-1.081</td>
</tr>
<tr>
<td>Action</td>
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<td>.905</td>
<td>1.483</td>
<td>1</td>
<td>.223</td>
<td>-.672</td>
</tr>
<tr>
<td>Anxiety</td>
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<td>.018</td>
<td>.509</td>
<td>1</td>
<td>.476</td>
<td>-.048</td>
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Table 3.3: Ordinal Regression

<table>
<thead>
<tr>
<th>Stages of change for general condom use (N = 99)</th>
<th>Estimate</th>
<th>Std. Error</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Precontemplation</td>
<td>-.296</td>
<td>.605</td>
<td>.239</td>
<td>1</td>
<td>.625</td>
<td>-1.482</td>
</tr>
<tr>
<td>Contemplation</td>
<td>.441</td>
<td>.606</td>
<td>.528</td>
<td>1</td>
<td>.467</td>
<td>-.747</td>
</tr>
<tr>
<td>Preparation</td>
<td>1.583</td>
<td>.629</td>
<td>6.328</td>
<td>1</td>
<td>.012</td>
<td>.350</td>
</tr>
<tr>
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<td>.654</td>
<td>10.210</td>
<td>1</td>
<td>.001</td>
<td>.808</td>
</tr>
<tr>
<td>Anxiety</td>
<td>.000</td>
<td>.012</td>
<td>.000</td>
<td>1</td>
<td>.986</td>
<td>-.022</td>
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### Table 3.4: Ordinal Regression

Stages of change for seeking STI screening (n = 106)

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Error</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Precontemplation</td>
<td>-2.661</td>
<td>.623</td>
<td>18.229</td>
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<td>.000</td>
<td>-3.882</td>
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<tr>
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<td>3.381</td>
<td>1</td>
<td>.066</td>
<td>-2.171</td>
</tr>
<tr>
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<td>.467</td>
<td>1</td>
<td>.494</td>
<td>-1.490</td>
</tr>
<tr>
<td>Action</td>
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<td>.570</td>
<td>1.112</td>
<td>1</td>
<td>.292</td>
<td>-.516</td>
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<tr>
<td>Anxiety</td>
<td>-.017</td>
<td>.011</td>
<td>2.421</td>
<td>1</td>
<td>.120</td>
<td>-.039</td>
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Research Question 4: Does an Individual’s Stage of Change for Positive Sexual Health Behaviour at Initial Attendance Predict not Coming Back for Treatment?

Table 4.1: Logistic Regression

<table>
<thead>
<tr>
<th>Stages of change for condoms with a regular partner (N = 58)</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
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</thead>
<tbody>
<tr>
<td>SOC for condom use with a regular partner</td>
<td>-.015</td>
<td>.020</td>
<td>.549</td>
<td>1</td>
<td>.459</td>
<td>.985</td>
</tr>
<tr>
<td>Precontemplation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contemplation</td>
<td>-.414</td>
<td>.980</td>
<td>.179</td>
<td>1</td>
<td>.672</td>
<td>.661</td>
</tr>
<tr>
<td>Preparation</td>
<td>2.193</td>
<td>1.197</td>
<td>3.357</td>
<td>1</td>
<td>.067</td>
<td>8.966</td>
</tr>
<tr>
<td>Action</td>
<td>.195</td>
<td>1.260</td>
<td>.024</td>
<td>1</td>
<td>.877</td>
<td>1.216</td>
</tr>
<tr>
<td>Anxiety</td>
<td>.095</td>
<td>1.238</td>
<td>.006</td>
<td>1</td>
<td>.939</td>
<td>1.099</td>
</tr>
<tr>
<td>Constant</td>
<td>-.041</td>
<td>1.229</td>
<td>.001</td>
<td>1</td>
<td>.974</td>
<td>.960</td>
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</table>

Table 4.2: Logistic Regression

<table>
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<th>Stages of change for condoms with a casual partner (N = 35)</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC for condom use with a regular partner</td>
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<td>.023</td>
<td>.019</td>
<td>1</td>
<td>.890</td>
<td>1.003</td>
</tr>
<tr>
<td>Precontemplation</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contemplation</td>
<td>-.401</td>
<td>1.355</td>
<td>.088</td>
<td>1</td>
<td>.767</td>
<td>.670</td>
</tr>
<tr>
<td>Preparation</td>
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<td>1.389</td>
<td>.068</td>
<td>1</td>
<td>.794</td>
<td>1.438</td>
</tr>
<tr>
<td>Action</td>
<td>.098</td>
<td>1.102</td>
<td>.008</td>
<td>1</td>
<td>.929</td>
<td>1.103</td>
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<tr>
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<td>.001</td>
<td>1</td>
<td>.976</td>
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<tr>
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<td>1.422</td>
<td>.010</td>
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<td>.922</td>
<td>.869</td>
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Table 4.3: Logistic Regression

<table>
<thead>
<tr>
<th>Stages of change for general condom use (N = 77)</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC for general condom use</td>
<td>-.023</td>
<td>.016</td>
<td>2.004</td>
<td>1</td>
<td>.157</td>
<td>.978</td>
</tr>
<tr>
<td>Precontemplation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contemplation</td>
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<td>.854</td>
<td>.376</td>
<td>1</td>
<td>.539</td>
<td>.592</td>
</tr>
<tr>
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<td>1</td>
<td>.131</td>
<td>4.348</td>
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<tr>
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<td>.893</td>
<td>.916</td>
<td>1</td>
<td>.339</td>
<td>2.351</td>
</tr>
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<td>1</td>
<td>.991</td>
<td>1.013</td>
</tr>
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<td>.249</td>
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<td>.618</td>
<td>1.666</td>
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</table>
Table 4.4: Logistic Regression

Stages of change for seeking STI screening (N = 22)

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC for STI screening</td>
<td></td>
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<td>4</td>
<td>.275</td>
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<td>.955</td>
<td>.160</td>
<td>1</td>
<td>.689</td>
<td>.683</td>
</tr>
<tr>
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<td>.663</td>
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<td>1</td>
<td>.130</td>
<td>2.727</td>
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<tr>
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<td>.378</td>
<td>1.910</td>
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<td>.015</td>
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<td>1</td>
<td>.424</td>
<td>.988</td>
</tr>
<tr>
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<td>.894</td>
<td>.172</td>
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<td>.679</td>
<td>.690</td>
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