# What influences university students to seek sexually transmitted infection testing?: A qualitative study in New Zealand

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## ABSTRACT

Objective: Untreated sexually transmitted infections (STIs) can lead to serious health complications, increase susceptibility to contracting further STIs including human immunodefiniceny virus (HIV), and can be transmitted to others. The early diagnosis and treatment of STIs is therefore central to comprehensive STI management and prevention, but this relies on those at risk of STIs presenting for testing. In order to understand STI testing behaviours in view of their improvement, this study aimed to elucidate why people seek STI testing. Methods: Qualitative semi-structured interviews were conducted with 24 university students who had recently had an STI test. Resulting data were analysed employing a qualitative thematic analysis method to produce a final set of themes. Results: Five drivers for STI testing were identified from the data: crisis, partners, clinicians, routines, and previous knowledge. The final driver, previous knowledge, intersected with the previous four, particularly in relation to routines. Many participants acknowledged that the more they knew about STIs the more likely they were to undertake routine tests. However, at the same time, many participants felt they did not have a good knowledge base and that their school-based sex education had been lacking. Conclusion: This study highlights important drivers for STI testing, which may aid the design of public health campaigns. It also underlines that school-based education could provide stronger foundations with regards to STIs and their prevention.

## Introduction

Sexually transmitted infections (STIs) are a serious public health problem, with more than a million STIs acquired every day [1]. Young people are disproportionally affected by STIs. For example, in New Zealand, 83% of chlamydia cases and 73% of gonorrhoea cases in 2014 were among people aged between 15 and 29 years [2]. Several reasons have been proposed for this. Firstly, young people partake in higher-risk sexual behaviours and change sexual partners more frequently [3]. Young people may also be less well able to negotiate condom use than older, more experienced men and women, and less able to conceptualize actions and their consequences due to incomplete cognitive development [4]. There are also several biological reasons which make adolescent females more vulnerable to some STIs, including high vaginal pH, lack of mucus secretion and cervical ectopy [3,5].

Untreated STIs can have serious sequelae including pelvic inflammatory disease, infertility, adverse pregnancy outcomes, cancer and death [6–8]. Furthermore, having an STI increases susceptibility to contracting further STIs, including human immunodeficiency virus (HIV) [9]. Non-diagnosis of any STI also increases the likelihood that an infected individual will transmit the infection to a sexual partner. Therefore, the early diagnosis and treatment of STIs is central to comprehensive STI management and prevention [10].

Understanding the views and behaviours of sexually active young people towards STI testing may enable us to tailor sexual health programmes and interventions to encourage presentation for STI testing. Much research has focussed on the barriers to testing, identifying factors such as stigma, embarrassment, feelings of invulnerability, fear of the test itself, or the cost of testing [11–14]. While the barriers to STI testing have been well documented, the factors influencing presenting

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for testing remain less researched. Some studies have focussed on what facilitates testing, with common facilitators being: normalisation of testing; education; access to testing and services; patient comfort with general practice; and incentives [15]. Fewer studies have focussed on the factors that are likely to instigate STI testing.

Investigating this in New Zealand is of considerable relevance, as infection rates in this country are high by international standards [16] and testing coverage rates are below the level mathematical modelling has suggested are required to decrease chlamydia prevalence [2]. National guidelines for chlamydia testing in New Zealand recommend that clinicians test people under the age of 30 years who are sexually active, or anyone who is at risk of an STI [17]. However, there is no systematic opportunistic population screening programme in New Zealand such as the National Chlamydia Screening Programme in England, so individuals are responsible for seeking an STI test. There are several services that provide STI testing in New Zealand, including sexual health clinics (SHCs), Family Planning clinics (FPCs), the New Zealand AIDS Foundation (NZAF), student and youth health clinics, local Māori and Pacific healthcare providers, and general practitioners (GPs). While it is likely that the barriers and drivers for testing will differ by setting, we chose to focus on university students, as previous research has demonstrated high-risk sexual behaviour among this population, including infrequent condom use, sex with multiple partners, and casual sex [18,19].

In order to better understand the factors influencing STI testing behaviours, university students who had recently had an STI test were recruited to a multi-methods study. The results of analyses relating to the barriers to STI testing have previously been published [20]. The objective of this paper was to identify factors which led these students to STI testing ("drivers" for testing).

## Methods

Since the purpose of this research was to seek insight into the attitudes, views and opinions of individuals, a qualitative methodology was the most appropriate.

### Participants and recruitment

The participants were students from a New Zealand university who had had an STI test at the university medical clinic and had completed a questionnaire about their visit. An invitation to participate in a follow-up interview was emailed to those who had agreed to be contacted. Participants were given a grocery voucher of small value (NZ $30) as compensation for their participation. Ethical approval was granted by the Victoria University of Wellington Human Ethics Committee (ref: 22110).

A purposeful sampling strategy was used, aided by responses to a questionnaire item where participants could select their reason for testing from a list of ten possible answers or write in their own reason. During the initial stages of recruitment, we aimed to capture a range of motivations for testing. As the study progressed, categories began to emerge in relation to drivers for STI testing, and the sampling strategy was then adjusted to seek participants who had experienced specific drivers so that we could saturate the categories [21,22]. Participants were sought until the point of data saturation; this was deemed to have been achieved when no new drivers for testing were proposed by participants in the interviews.

### Data collection

Interviews were held in private rooms on the university campus and were conducted by one researcher (HD), with the exception of the first two interviews where a second researcher (AJ) also attended with the participants' permission. Informed, written consent was obtained before the interview commenced.

**Table 1**
Interview guide.

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|---|
| Why did you go for an STI test? |
| How did you arrive at that decision/was there anything in particular that prompted you? |
| For how long had you been considering going for a check-up? |
| Was there anything that stopped you from wanting to go/put you off going? |
| Did you have any symptoms? |
| Had you had an STI test before? |
| How did you feel about going for a test? |
| How concerned were you that you may have picked up an STI? |
| What were you most concerned about when the test results were positive/if the test results had been positive? |
| What is the worst thing about going for an STI test? |
| Where do you get information about STIs? |
| Do you talk about STIs with anyone (friends/family/partner)? |
| Did you have sex education at school? |

The interview was semi-structured and focused on the factors contributing to the decision-making process about going for an STI test. The opening question was 'why did you go for an STI test?' Follow-up questions and probes were used to investigate drivers for testing in more detail. The researcher referred to a list of key questions during interviews when necessary (Table 1).

The interviews were tape recorded and transcribed verbatim. The interviewer made extensive observational notes immediately following each interview, and kept a separate, reflective diary of the process. A summary of the main points was prepared and sent to the participant for review to confirm their decision-making process and views had been correctly understood. No changes to the data analysis needed to be made as a result of this process.

### Analysis

Immersion in the data took place using familiarisation techniques including: listening to the audio of each interview multiple times; reading transcripts repeatedly; and going over observational notes. The data were analysed using a qualitative thematic analysis method [23]. NVivo software (v11) was used to help manage the data. One researcher (HD) systematically coded each unit of information (a sentence or part of a sentence) using key words or phrases. Codes were drawn directly from the data and assigned to the transcripts inductively. A constant comparative approach was taken to ensure coding categories were used consistently. The codes were then grouped together to form categories which became the main themes of the analysis. A thematic map was drawn, grouping codes, to help the researchers visualise the data. Identification of the main themes from the codes was carried out by two researchers (HD and AJ), who worked together using the observational notes and reflective diary to aid a rigorous analysis.

## Results

In total, we approached 57 students who had completed the questionnaire to participate in interviews. Of these, 30 responded but five were no longer living in the area so could not take part in a face-to-face interview, and one was subsequently uncontactable. Recruitment took place concurrently with interviews to allow sampling and assessment of data saturation. Interviews lasted an average of 40 min (24–62 min). Saturation was reached after 24 interviews. The characteristics of participants are summarised in Table 2.

From the data, we identified five 'drivers' for testing. They included: crisis, partners, clinicians, and routines. The final driver, previous knowledge, intersected with the other four, but most prominently in relation to routine-driven testing, whereby better knowledge encouraged more regular testing. However, we discuss this knowledge as a separate theme below, because the lack of, and/or the desire for, knowledge emerged as relevant to the other drivers too.