PHYSICIAN INITIATED STI PREVENTION COUNSELLING:

TARGETING WOMEN TO REACH COUPLES

Spine title: Physician Initiated STI Prevention Counselling

(Thesis format: Monograph)

by

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Graduate Program
in
Psychology

A thesis submitted in partial fulfilment
of the requirements for the degree of
Doctor of Philosophy

Faculty of Graduate Studies
The University of Western Ontario
London, Ontario, Canada

Your file Votre référence
ISBN: 978-0-494-39313-0
Our file Notre référence
ISBN: 978-0-494-39313-0

THE UNIVERSITY OF WESTERN ONTARIO
FACULTY OF GRADUATE STUDIES

CERTIFICATE OF EXAMINATION

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requirements for the degree of

Doctor of Philosophy

Date_____

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Chair of the Thesis Examination Board

Abstract

Despite efforts directed at reducing the risk of STI/HIV infection, STI prevention strategies for those involved in serial monogamous relationships are lacking. Participants in the current research included 47 female university students between 18-29 years of age (M = 22.3, SE = .34) seeking oral contraception and recruited through an on-campus student health clinic. Participants were randomly assigned to standard contraceptive care (23 individuals), or to a physician-initiated STI/HIV prevention intervention (24 individuals). In the STI/HIV intervention condition, physicians were asked to discuss and complete a behavioural prescription (e.g., recommendation) for consistent condom use, or mutual STI/HIV testing with mutual monogamy, and hand out safer-sex information packages during women's appointments for oral contraceptive prescription. Contrary to expectation, women who received the intervention did not report more consistent condom use, or increased rates of mutual STI/HIV testing when compared to women receiving standard contraceptive care. Women in the intervention condition, however, were more likely to report *planned* condom use over the next 3 months when compared to women in the comparison group. Although condom use consistency and length of sexual relationship at baseline were not related to safer-sex behaviours at follow-up, consistent condom use at baseline was significantly related to condom use at follow-up. Exploratory analyses revealed that women are more likely to engage in safer-sex behaviours when both they and their male partner are sexually inexperienced when they meet, and the relationship is perceived as nonmonogamous. Directions for future research and implications for intervention strategies are discussed.

Keywords: safer sex, condom use, STI/HIV testing, university couples, monogamous relationships

In loving memory

of my father

Acknowledgements

This dissertation was made possible through the involvement, support, and guidance of many people. First and foremost, a profound thanks to my supervisor, Dr. Bill Fisher. Thank you for taking me under your wing, for sharing your passion for research with me, and for providing endless amounts of support, encouragement and wisdom. I have great respect and admiration for the work that you and the impact you are making.

Sincere thanks to my family (all of the Foys and Petermans), for believing in me, cheering me on through the ups and downs, and for supporting me in every way imaginable. Special thanks to my incredible husband, Rob Peterman, for seeing me through every single step of this incredibly journey. From the proposal meeting to the oral exam (and all the life events in between), you have been there. I could not have done this without you. Thank you also to our little girl, Reese, for being my inspiration during the final phases of this project.

I would also like to thank my wonderful friends at Western. Your sincere and genuine friendship has been the highlight of my graduate years. Thank you for always being there to listen, and for knowing what to say and how to help. You have shown me the true meaning of friendship.

Finally, this project would not have been possible without the involvement of the physicians at York Lanes Health Centre at York University. Many thanks for believing in the importance of this research and for the hours of front-line work that you invested. Special thanks to Dr. Michelle Freedman, Dr. Robin Rosen, and Dr. Dimitra Trambakoulos.

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Introduction

Research has shown that serial monogamy is the normative pattern for sexual relationships among young people in Canada (Fisher & Boroditsky, 2000; Maticka-Tyndale, 1997). Although individuals involved in a series of monogamous relationships are sexually active with only one person at a time, they tend to accumulate a number of sexual partners between the time of their sexual debut and the formation of a single permanent relationship. Unfortunately, the perception of a relationship as committed and monogamous appears to grant permission for unsafe sexual practices to occur (Moore & Rosenthal, 1998). In this context, a primary route to risky sexual behavior among serially monogamous couples is the receipt of a prescription for oral contraception (Macdonald, Wells, Fisher et al., 1990). Since oral contraception appears to relieve serially monogamous couples of their only immediate concern about sexual activity (e.g., conception), they are exceedingly likely to cease condom use and rely solely on contraceptives without any STI/HIV testing (Anderson, Santelli & Colley Gilbert, 2003; Fisher & Boroditsky, 2000; Lear, 1995; Macaluso, Demand, Artz, & Hook, 2000; Nguyen, Saucier, & Pica, 1996; Reisen & Poppen, 1995). Given that these women continue to place themselves at risk in each of their serially monogamous relationships, their STI/HIV incidence increases dramatically as a result of the well-intentioned prescription of nonbarrier contraception by their physicians (Ehrhardt, Exner, Hoffman et al., 2002; MacDonald et al., 1990). Since there is a lack of simple easy to implement STI

prevention strategies that are relationship-relevant and relationship-friendly, the purpose of the current study was to implement and evaluate a brief physician-initiated intervention to promote safer-sex in the context of serially monogamous relationships.

STI and HIV Update

A review by Patrick, Wong and Jordan (2000) indicated that there have been "broadly-based increases" in rates of chlamydia and gonorrhea, "localized outbreaks" of infectious syphilis, and widespread infection by herpes simplex virus and human papillomavirus (HPV) observed in this country since 1997 (p. 149). More recently, the STI Surveillance Report (Public Health Agency of Canada, 2007) confirmed that sexually transmitted infections continue to be "an escalating public health concern and challenge in Canada" (p. 9). Specifically, chlamydia was the most widespread and frequently reported communicable disease in Canada in 2004, with two thirds of all cases occurring among women, and 73% of these cases occurring among 15-25 years old (Public Health Agency of Canada, 2007). Gonorrhea infections showed a similar trend with 70% of cases in women occurring among those 15-24 years old (Public Health Agency of Canada, 2007). Human papillomavirus (HPV), which has been linked to almost all cases of cervical cancer, has the highest rates of infection in women younger than 25 years of age. In fact, "...one in seven young sexually active women may carry detectable oncogenic HPV" (Patrick et al., 2000, p. 159). These rates have been confirmed by other researchers who report that 17% of women between the ages of 18-24 have been diagnosed with a sexually transmitted infection (STI); 50% of infected women had chlamydia and 21% had HPV (Fisher & Boroditsky, 2000). Women in particular tend to

be at risk of STI infection and their sequaele. Not only are they 4 times more likely to contract a STI when compared to men, but they are also more likely to be asymptomatic. Moreover, if left untreated, the consequences of STIs for women are especially severe – including pelvic inflammatory disease, cervicitis, infertility, ectopic pregnancy, endometriosis, cervical cancer, and even death. Considering the seriousness of the sequelae associated with these STIs, and the fact that only some infections are cured with drug therapy, these increases are alarming.

Over and above these STIs, we note that approximately 58,000 Canadians are living with HIV, with greater numbers of new infections occurring every year (e.g., 2,100 to 4, 000 new HIV infections in 2002 versus 2,300 to 4,500 in 2005; Public Health Agency of Canada, 2006a). Women represent about 25% of all Canadians who have tested positive for HIV (Public Health Agency of Canada, 2006a), with the largest proportion of positive HIV tests occurring among women 15-29 years of age - and the proportion of new HIV infections that involve women is rising each year (e.g., 24% in 2002, and 27% in 2005; Public Health Agency of Canada, 2006b). Furthermore, some 67% of all reported cases of HIV infection in women can be attributed to heterosexual contact (Health Canada, April 2002). Not only is it the case that "Heterosexual contact still remains the main risk factor for HIV in women" in Canada (Public Health Agency of Canada, 2006b, p. 28), but "repeated unprotected intercourse with the same infected partner is the most likely way to contract AIDS" (Hearst & Hulley, 1998).

While HIV testing became available to Canadians in 1985, approximately 27% (e.g., 15,800) of individuals currently infected with HIV are unaware that they are HIV positive (Public Health Agency of Canada, 2006c). Since knowledge of HIV serostatus

often reduces high risk sex acts (Rotherman-Borus, Cantwell & Newman, 2000) and leads to initiation of antiretroviral therapy, reduction in viral load, reduced transmissibility of the virus, and slowing or stopping of progression from HIV infection to AIDS (Bunnell, Ekwaru, Solberg et al., 2006), the chance of transmission to sexual partners or unborn infants is reduced. Moreover, health enhancing therapies are available for those who become aware of HIV infection, and counselling on how to reduce the risk of contracting HIV in the future is provided for those who receive negative HIV test results (Health Canada, April 2002).

Intimacy, Relationship Trends, and Condom Use

According to Levine (1991), psychological intimacy is a "powerful motivator of sexual expression" (p. 259). This was supported in a survey of U.S. college students (O'Sullivan & Gaines, 1998) finding that individuals engage in sexual behavior in an attempt to promote or establish intimacy in their relationships. When college students were asked about their goals for dating, the top three included: maintaining emotional intimacy and closeness with one's partner, achieving sexual intimacy, and avoiding relationship conflict. Ways of maintaining intimate relationships include avoiding confrontation with partners (for fear of relationship loss; Afifi, 1999), and engaging in sexual intercourse (Rostosky, Galliher, Welsh et al., 2000). Given that sexual activity is a form of intimate expression and condoms represent a method of disease prevention, the use of physical or symbolic barriers in a committed relationship may imply a lack of trust or intimacy (Abbott-Chapman & Denholm, 1997; Hammer Fisher, Fitzgerald, & Fisher, 1996). As a result, individuals in intimate relationships are more likely to put themselves

at risk (by engaging in higher levels of STI/HIV risk behavior) than individuals involved in more casual sexual encounters (Hammer et al., 1996).

In research by Jaworski and Carey (2001) involving female college students in a brief STI prevention program, it was found that 53% of female participants were in "committed relationships" pre-intervention where their male partners were not using condoms. These investigators suggest that "Initiating condom use in a committed relationship can be interpreted as questioning commitment and interpersonal trust" (p. 423). Furthermore, Hammer et al. (1996) concluded that "worries about threatening trust and intimacy are often the *real* difficulties couples have with safer sex" (p. 389). Therefore, the longer individuals know and trust their partners, the more they trust that their partners do not have a STI. Moreover, the more they believe that they are safe from harm, the more likely they are to engage in unsafe sexual practices (Lock, Ferguson & Wise, 1998, p. 287). Indeed, researchers have found that "...about 25% of Canadian women carry the misperceptions that monogamy and getting to know and trust your partner eliminates the need to use condoms for STI/HIV prevention" (Anonymous, 1999, p.189).

For many individuals involved in a committed relationship, the costs of HIV and STI prevention often seem to outweigh the benefits. Since feelings of intimacy, trust and commitment are so critical to couples, "those in intimate relationships believe it is highly unlikely that their partner could be HIV positive, but highly likely that initiating condom use or HIV testing could damage their relationships" (Hammer et al., 1996, p. 392). Moreover, for some couples, talking about safer-sex or sexual histories is considered to be more intimate than sexual intercourse itself (Lock et al., 1998). Since relationship

threat may be a paramount concern for those in relationships, it follows that the cost of initiating STI/HIV preventive behavior is much lower for those involved in casual rather than committed relationships; those in committed relationships feel that they have much more to lose (Hammer et al., 1996). Therefore, it may be very difficult for couples to request condom use in committed sexual relationships without bringing up the dreaded topic of either partner's past sexual relationships. Similarly, once sexual intercourse without condom use has occurred, its introduction later in a relationship is highly likely to arouse concerns about trust and fidelity.

Given widespread concern with relationship trust, commitment, and intimacy, it is not surprising that condom use tends to vary with the type and length of a relationship. Reisen and Poppen (1995) found that women were more likely to use condoms in their first sexual relationships, earlier on in their relationships, when in shorter relationships, and when they perceived more benefits than barriers to condom use. Moreover, condom use tends to become less consistent as sexual relationships grow more stable, intimate, and committed over time (Anderson et al., 2003; Hammer et al., 1996; Lear, 1995; Macaluso et al., 2000; Nguyen et al., 1996; Reisen & Poppen, 1995). In addition to issues of trust and commitment, couples report that they do not use condoms because condoms interfere with their enjoyment of sex, they decrease sensation and spontaneity, and they are unpleasant to use (Williams, Kimble, Covell et al., 1992). Indeed, women who found unprotected vaginal intercourse more pleasurable than condom-protected intercourse were less likely to report any male condom use (Ehrhardt et al., 2002, p. 2). Alcohol impairment and "overwhelming lust" are also frequently cited reasons for not using condoms in sexual relationships (Williams et al., 1992, p. 930). In addition, individuals

may choose to engage in unprotected sex rather than risk embarrassing themselves or their partner with requests for condom use (Afifi, 1999). In many cases, then, research converges to suggest that people may be more willing to risk their long-term health than to risk threatening their relationship by discussing issues surrounding safer sexual practices (Afifi, 1999; Cline, Freeman, & Johnson, 1990; Lock et al., 1998; Misovich, Fisher, & Fisher, 1997).

A Positive Impression of Condom Use

Many of the participants in Hammer and colleagues' (1996) research indicated that condoms do not interfere with sex. In fact, one third of their participants felt that condoms could be used in ways that bring couples together and increase levels of sexual arousal (e.g., where the female puts the condom on her male partner). When interviewing undergraduates, Lear (1995) found that "Some viewed safer sex as fun or empowering, because it forced them to communicate more openly, to be more creative in the approach to sex, and to be more responsible for their behavior" (Lear, 1995, p. 1322). In addition, Klein and Knäuper (2003) found that women who viewed condom use as indicating responsibility and respect toward their partner, used condoms more consistently. Indeed, researchers have found that those who intend to use condoms believe that condom use will reduce the risk (and their fears) of contracting STIs and HIV (for themselves and their partners), and are therefore motivated to engage in safer-sex behaviours (Fisher, Fisher & Rye, 1995). Parsons, Halkitis, Bimbi and Borkowski (2000) found interesting gender differences between the perceived benefits of condom use in university students. Specifically, female college students reported more benefits of condom use, fewer

benefits of unprotected sex, greater costs of unprotected sex, greater self-efficacy for practicing safer-sex, and less situational temptation for unsafe sex when compared to male college students. It is also interesting to note that almost all undergraduate participants (e.g., male and female) in one study indicated that they would agree to use a condom if their partner insisted (Hammer et al., 1996). Therefore, it appears as though some couples have created ways to combine highly intimate relationships with STI/HIV prevention leading to increased benefits to their health and sexual relationships (e.g., increased arousal, decrease in concern surrounding pregnancy and STI transmission, increased communication and creativity, increased empowerment). Moreover, in terms of targets for prevention, if just *one* partner within the couple insists on condom use, safer-sex may well become more likely. Therefore, prevention strategies may benefit from utilizing partner power to encourage safer-sex.

Assessing Risk

> "Because the only way to accurately determine someone's AIDS risk is through knowledge of that person's HIV status, the use of any other cues to assess risk will often provide a dangerous, false sense of security" (Williams et al., 1992, p. 927).

Unfortunately, the factors most often used by couples to determine their level of risk (i.e., being in a monogamous relationship, and knowing, loving and trusting one's partner) are "objectively irrelevant to the partner's actual level of HIV risk" (Hammer et al., 1996, p. 385). And, according to Lear's (1995) research, men and women evaluate risk differently. While men tend to assess risk by using physical appearance (and worry about the risk of

STI/HIV exposure after having sex), women evaluate STI/HIV risk based on the level of commitment in their relationship (i.e. casual/romantic relationship). Moreover, the more trust, monogamy and commitment women perceived in their relationship, the more likely they were to engage in sexual acts perceived as more intimate (i.e., oral sex, and sex without a condom; Lear, 1995). While women also developed trust in their partners through indirect information (i.e., by asking others, knowledge of partner's blood donation or drug testing), men used their instincts to establish trust in their partners (i.e. appearance, personality, or behavior; Lock et al., 1998). Thus, it appears that both men and women need more accurate information related to the assessment of risk, the facts about STI/HIV risk in serial monogamous relationships, and appropriate ways to assess and avoid such risk (e.g., mutual STI/HIV testing or consistent condom use).

Transforming Safer-Sex to Routine Health Practice

> "HIV has made the issue of trust in sexual relationships a potential question of life and death" (Lear, 1995, p. 1321).

The meaning of condoms and the request for condom use needs to be changed from one that implies the presence of disease and a lack of trust to one that emphasizes commitment to personal health and safety (Afifi, 1999). An excellent example of reframing issues of trust and safety is provided by Afifi (1999):

> Originally, a passenger's desire to use a seatbelt was interpreted as a slight against the driver, and suggested distrust. Today, seatbelts are recognized as important devices to maintain personal safety, and are not imbued with meaning about the driver or his/her

> abilities or trustworthiness. In a somewhat similar fashion, the request to use a condom currently may imply that the partner is diseased, and suggests that the partner may not be trustworthy" (Afifi, 1999, p. 204).

If requests for condom use were recognized as an important and socially acceptable way to maintain personal health and safety without threatening relationship trust and commitment, perhaps safer-sex would be more prevalent in young monogamous couples. Unfortunately, research to date has focused on STI/HIV prevention strategies geared to casual or less committed relationships, leaving those in serially monogamous relationships without accurate information about STI/HIV threat or appropriate strategies to incorporate safer sexual practices into their committed relationships. Indeed, researchers have found that it is very difficult for couples to introduce (or re-introduce) condoms in their relationship as many felt that it was already "too late" to prevent STI/HIV transmission once they had engaged in unprotected sex (Fisher, Fisher, Misovich et al., 1996). Unfortunately this means that once a couple has engaged in unsafe sex, they believe that there is no point in practicing safer-sex behaviours in the future. Clearly, the occurrence of risky sexual behavior within the committed relationships of young people in Canada and the resistance to incorporating such practices into these relationships is an individual and public health need that must be addressed.

Summary

Research has shown that serial monogamy is a normative trend for sexual relationships and that these relationships are often viewed as safe from STIs. Unfortunately, this means that those in serially monogamous relationships often engage in risky sexual behaviors such as discontinuing condom use without ever being tested for STIs (Fisher & Boroditsky, 2000; Lear, 1995; Macaluso et al., 2000; Nguyen et al., 1996; Reisen & Poppen, 1995). In addition, not only has research shown that women are physically more vulnerable to contracting a STI, they are also more likely to be asymptomatic and tend to experience more severe consequences from untreated infections (e.g., infertility, pelvic inflammatory disease, cervical cancer, and death). To make matters worse, women are also very likely to stop using condoms once they receive a prescription for oral contraception, and are likely to assess sexual health safety on the basis of perceived levels of relationship trust and commitment. With the combination of the increasing rates of STIs and HIV that have occurred over the last several years and the increased but illusory perception of safety within established relationships, these sexual health trends are very problematic.

Despite all of the intervention efforts that have been directed at reducing the risk of STI/HIV infection (Carey, Maistro, Kalichman et al., 1997; Ehrhardt & Exner, 2000; El-Bassel, Witte, Gilbert et al., 2005; Greenberg, Hennessy, MacGowan et al., 2000; Jaworski & Carey, 2001; Rotheram-Borus et al., 2000), there is a serious lack of simple and easy-to-enact STI prevention strategies for those in serious but serially monogamous relationships (Fisher et al., 1996; Misovich et al., 1997). Moreover, there appears to be a lack of accurate information for these couples as well as a lack of relationship-relevant

and relationship-friendly safer-sex strategies. In order to reduce the risk of STI/HIV infection in serious but serially monogamous relationships, prevention programs must find ways to reduce the stigma and relationship threat that are often associated with continued practice of safer-sex, such as continued condom use and/or STI/HIV testing within ongoing relationships. One way to achieve this is to take safer-sex out of the context of a couple's relationship by disconnecting requests for condom use and testing from implications of an individual's risky sexual past (e.g., turning safer sex into a simple and routine health promotion practice). Since women require physician prescriptions for oral contraception (and this seems to be a primary gateway to risky sexual behaviour), appointments with a physician for prescription of oral contraception would appear to be a wonderful opportunity to convert risk into prevention; to relay accurate information (e.g., the risk of STI/HIV transmission in serially monogamous relationships); assess sexual history and current levels of risk; and to recommend appropriate safer-sex strategies.

The Current Study

The purpose of the current study was to implement and evaluate a brief physician-initiated intervention to promote safer-sex in the context of contraceptive care (refer to Fisher, Cornman, Norton & Fisher, 2006). During women's appointments for the prescription of oral contraception, physicians were asked to either briefly discuss and "prescribe" safer-sex behaviors such as consistent condom use, or mutual STI/HIV testing with mutual monogamy - or to provide standard contraceptive care. Female oral contraceptive patients in the intervention group also received information packages designed to increase their awareness of STI transmission and prevention at this time; no

such information was provided to standard of care controls. Follow-up assessment conducted by the researcher was designed to assess whether this brief intervention was effective in converting a risk portal situation—prescription of oral contraception—into a safer-sex setting promoting continued condom use or mutual STI/HIV testing combined with monogamy.

Hypotheses

By using physicians to prescribe safer-sex strategies to women during routine appointments for oral contraception prescription, it was anticipated that the behavioural recommendations for STI/HIV prevention would be viewed as an important component of personal health and safety rather than a threat to relationship trust and commitment (e.g., "My doctor told me that we need to do this before s/he prescribes the Pill"). Therefore, it is predicted that female oral contraception patients who receive physician-initiated STI prevention counselling will report more consistent condom use, and will be more likely to report mutual STI/HIV testing when compared to women receiving standard contraceptive care. Moreover, since the literature tends to indicate that individuals in shorter relationships are more likely to use condoms compared to those in longer, more committed relationships, it is predicted that patients who report sexual relationships of shorter duration will be more likely to report consistent condom use after the intervention, and that those in sexual relationships of a longer duration will be more likely to report mutual HIV/STI testing with monogamy after the intervention. Finally, since initiating new behaviours is generally more difficult than maintaining current behaviours (especially within a committed relationship), it is hypothesized that patients

who report current condom use at baseline will be more likely to report consistent condom use after receiving the intervention when compared to those who do not report consistent condom use initially.

Although specific predictions have not been made regarding any differences between those who are engaging in safer-sex at baseline (e.g., neither partner has ever had another sexual partner; the male partner has used condoms 100% of the time) compared to those who are not, exploratory analyses will be employed to determine whether those receiving the intervention are more likely to maintain safer-sex behaviour over time or move towards increased safety by follow-up.

Method

Participants

A total of 105 female university students were recruited from the student health clinic at York University in Toronto, Ontario, Canada for the current study.[1] Of these, 38 participants were removed from the analyses as 17 failed to meet the requirements of the study (e.g., selection criteria), and 21 did not complete the study (e.g., the follow-up questionnaire). Therefore, 67 participants (33 intervention, 34 comparison) completed all study requirements and provided valid data (e.g., met study criteria, returned informed consent forms, completed baseline and follow-up questionnaires). Since 20 of the 67 participants reported engaging in safer-sex behaviour at baseline ("safer-sex relationships"), they were *removed* from analyses of intervention impact on safer-sex behavior such as condom use consistency and STI/HIV testing with monogamy (e.g., the hypothesis testing) and movement toward safety. However, women involved in safer-sex relationships were *included* in analyses exploring intervention impact on the maintenance of safer-sex behavior[2]. Thus, participants in the primary analyses of this research included 47 female university students between 18-29 years of age ($M = 22.3$, $SE = .34$) who were involved in unsafe sexual relationships at baseline. There were 24 such female participants in the intervention group and 23 in the comparison group. The majority of participants were single (unmarried; 55.3%) or living with their partner (36.2%), Caucasian (68.1%), and currently completing an undergraduate degree (74.5%). Most

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[1] Based on an a priori power analysis using G*Power (refer to Erdfelder, Faul & Buchner, 1996 for more information on G*Power), our desired sample size was 210 individuals. This sample size was calculated using a two-tailed t-test of means, for a desired power of .95, medium effect size (e.g., .05) and an alpha level of .05.

[2] Since we were most interested in the reduction of risk behaviours and movement toward safer-sex behaviours, we removed participants that were already engaging in safer-sex behaviours at baseline. Refer to "Purpose of Identifying Safer-Sex Relationships" for more information.

participants were seen by 2 of the 4 doctors participating in the study. Refer to Table 1 for the percent and frequency of participants in these demographic categories.

With respect to relationship status at baseline, all participants reported that they were in a monogamous relationship (100%), and most participants had been dating their male partner for more than one year (63.8%). In addition, the majority of participants reported that they had had at least one previous sexual partner (89.4%) and that their male partner had had at least one previous sexual partner (91.5%). Only 4.3 % of all female participants indicated that both they and their male partner were coitally inexperienced (e.g., "virgins") when they met. Refer to Table 2 for more information on relationship characteristics at baseline.

In terms of contraceptive use at baseline, when participants were asked to rate a number of contraceptives according to consistency of use (e.g., 1=*Always*, 2=*Usually*, 3=*Sometimes,* 4=*Rarely*, and 5=*Never*), participants were most likely to use oral contraception (M = 1.52), followed by the male condom (M = 3.76) and withdrawal (M = 3.93; differences not significant) over the last 3 months when compared to all other contraceptives (e.g., the contraceptive patch, Depo Provera, Nuva Ring, female condom, contraceptive sponge, diaphragm, cervical cap, Lea's contraceptive, hormonal IUD, IUCD, rhythm method/fertility awareness, emergency contraceptive pill, and spermicide). None of the participants reported using Nuva Ring, diaphragm, cervical cap, Lea contraceptive, hormonal IUD, or IUCD in the past 3 months (M = 5.00, SE = 0.00 for all listed). When participants were asked about their partners' use of male condoms over the last 3 months, they were somewhat (but not significantly) more likely to report consistent use for male condoms overall (M = 3.76) when compared to condom use specifically for

Table 1

Percent and Frequency of Participants in Demographic Categories

Category	Percent (%)	Frequency (n)
Marital Status		
Single (unmarried)	55.3	26
Living with Partner	36.2	17
Common Law	6.4	3
Missing (not reported)	2.1	1
Ethnic Group		
Asian/Asian Canadian	10.6	5
Black/African Canadian	8.5	4
Hispanic/Latino	8.5	4
White/Caucasian	68.1	32
Middle Eastern	4.3	2
Degree Enrolled In		
Undergraduate	74.5	35
Professional	4.2	2
Graduate	8.5	4
Post Graduate	2.1	1
Recently Graduated	4.3	2
Working	4.3	2
Missing (not reported)	2.1	1
Doctor Seen		
Dr. 1	40.4	19
Dr. 2	51.1	24
Dr. 3	4.3	2
Dr. 4	4.3	2

Table 2

Percent and Frequency of Relationship Characteristics at Baseline

Relationship Category	Percent (%)	Frequency (n)
Currently in a monogamous relationship		
True	100.0	47
False	0.0	0
Length of Sexual Relationship At Baseline		
1 month to 3 months	10.6	5
3 months to 6 months	6.4	3
6 months to 1 year	19.1	9
More than 1 year	63.8	30
No sexual intercourse	---	---
No current partner	---	---
Female has had a previous sexual partner		
True	89.4	42
False	10.0	5
Male has had a previous sexual partner		
True	91.5	43
False	4.3	2
Don't Know	4.3	2
Partners were virgins when they met		
True	4.3	2
False	95.7	45

vaginal ($M = 4.13$), anal ($M = 4.25$) or oral ($M = 4.91$) intercourse (refer to Table 3 for a summary of contraceptive use at baseline). When participants were asked at baseline about their plans for contraceptive use in the next 3 months, 66% (n = 31) were planning to use hormonal contraception only, 2.1% (n = 1) were planning to use condoms only, and 31.9% (n = 15) were planning to use both hormonal contraception and condoms. Although most (78.7%) women reported that they had been tested for STI's, most (68.1%) had *not* been tested for HIV. Moreover, most women reported that their male partners had *not* been tested for STI's (55.3%) or HIV (72.3%). In addition, most women reported that they and their partner had *not* undergone mutual HIV/STI testing (e.g., 100%), that they and their partner were *not* planning mutual HIV/STI testing in the next 3 months (63.8%), and that they *and* their partner did *not* wait for 3 months after last unprotected intercourse before being tested for HIV (87.2%). Therefore, although all women reported that they were currently involved in a monogamous relationship and the vast majority of male and female partners were sexually experienced when they met, most women reported that they had *not* been tested for HIV and that their male partners had *not* been tested for either STIs or HIV (note that STI testing is not completely reliable as women tend to assume they have been tested during a pelvic exam, but this is not necessarily the case). Moreover, since all women reported that they had engaged in intercourse over the past 3 months, the only way for most of these women to be "safer" in their current relationships, was completely consistent condom use (e.g., "Always" use condoms). Unfortunately, only 2.1% of the sample reported that they "Always" used condoms for intercourse over the last 3 months and it is not clear that these women and their partners have always used condoms from the initiation of their sexual relationship,

Table 3

Means and Frequencies for Contraceptive Use at Baseline

Name of Contraceptive	M (SE) *1=Always, 5=Never*	Frequency of Use over the Past 3 Months					
		Always % (n) 1	*Usually* % (n) 2	*Sometimes* % (n) 3	*Rarely* % (n) 4	*Never* % (n) 5	*Missing* or N/A % (n)
Male Condom	3.76 (.18)	2.1(1)	10.6 (5)	27.7 (13)	14.9 (7)	34.0 (16)	10.6 (5)
For vaginal sex	4.13 (.16)	---	12.8 (6)	12.8 (6)	23.4 (11)	51.1 (24)	---
For oral sex	4.91 (.06)	---	---	2.1 (1)	4.3 (2)	85.1 (40)	8.5 (4)
For anal sex	4.25 (.49)	2.1 (1)	---	---	4.3 (2)	10.6 (5)	83.0 (39)
The "Pill"	1.52 (.18)	80.9 (38)	2.1 (1)	4.3 (2)	2.1 (1)	8.5 (4)	2.1 (1)
Contraceptive Patch	4.70 (.15)	4.3 (2)	---	4.3 (2)	---	76.6 (36)	14.9 (7)
Depo Provera	4.80 (.12)	2.1 (1)	---	4.3 (2)	---	78.7 (37)	14.9 (7)
Female Condom	4.97 (.03)	---	---	---	2.1 (1)	78.7 (37)	19.1 (9)
Contraceptive Sponge	4.95 (.05)	---	---	2.1 (1)	---	78.7 (37)	19.1 (9)
Withdrawal	3.93 (.21)	6.4 (3)	6.4 (3)	19.1 (9)	10.6 (5)	44.7 (21)	12.8 (6)
Rhythm Method	4.65 (.15)	2.1 (1)	2.1 (1)	6.4 (3)	2.1 (1)	72.3 (34)	14.9 (7)
Emergency Contraceptive Pill	4.84 (0.7)	---	---	2.1 (1)	8.5 (4)	70.2 (33)	19.1 (9)
Spermicide	4.87 (.09)	---	2.1 (1)	2.1 (1)	---	76.6 (36)	19.1 (9)

Note: 100% (n = 47) reported having vaginal intercourse in past 3 months; 17% (n = 8) reported having anal intercourse in the past 3 months; and 89.4% (n = 42) reported having oral intercourse over the past 3 months. Therefore, the percentages of condom use for vaginal, anal and oral sex (above) are based on participants who reported these types of sexual behaviors. Moreover, the following contraceptive options were removed from the table as all participants denied using them: Nuva Ring, diaphragm, cervical cap, hormonal IUD, and IUCD.

which would be required for safety to be assumed. Although these couples are at fairly high risk for STI/HIV transmission, only 25% planned to always use condoms in the next 3 months and only 36% planned on mutual HIV/STI testing over the next 3 months. Please refer to Table 4 for a summary of these observations.

Purpose of Identifying Safer-Sex Relationships

The purpose of the current study was to evaluate whether the physician initiated STI prevention counselling intervention was successful in *decreasing* sexual risk behaviours and increasing safer-sex behaviours. Since participants who reported safer-sex behaviour at baseline had already attained our treatment goals (and there is no variance in a couple that remains safer over time), they were removed from the primary data analysis and examined separately. In addition, when women involved in safer-sex relationships were included in baseline equivalence analyses (e.g., n = 67), there was a significant difference between intervention and comparison groups on a number of variables (e.g., Age, Male STI Testing Timeline, and Male HIV Testing Timeline).[3] Therefore, to ensure that equivalence existed between the groups (e.g., intervention and standard contraceptive

[3] When women who reported safer-sex behaviours at baseline were NOT removed, there was a significant association between Age and Group ($t(57) = -2.35$, $p < .05$; equal variances not assumed; $F = 4.09$, $p < 0.5$), where the mean age of the intervention group (22.97 years) was significantly higher than the mean age of the comparison group (21.62 years). In addition, there was a significant association between Group and Male STI Testing Timeline [$\chi^2(3) = 7.81$, $p = .05$], where males in the intervention group were more likely to be tested for STIs *before* their current relationship (42.9%), while males in the comparison group were most likely to be tested for STIs *during* the current relationship (87.5%). A similar significant association was found between Group and Male HIV Testing Timeline [$\chi^2(3) = 8.00$, $p < .05$] where males in the comparison group were more likely to be tested for HIV *during* their current relationship (90%) while males in the treatment group were more likely to be tested for HIV *before* entering their current relationship (30%).

Table 4

Percent and Frequency of Sexual Relationships, Sexual Partners, and Safer-Sex Behaviours at Baseline

Description of Variable	True % (n)	False % (n)	Don't Know % (n)
Involved in a monogamous relationship	100 (47)	-----	-----
Previous sexual partners			
Both partners were virgins when they met	4.3 (2)	95.7 (45)	-----
Female has never had previous sexual partners	10.6 (5)	89.4 (42)	-----
Male partner has never had previous sexual partners	4.3 (2)	91.5 (43)	4.3 (2)
Engaged in intercourse and use of condoms			
Engaged in intercourse last 3 months	100 (47)	-----	-----
"Always" used condoms for intercourse in last 3 months	2.1 (1)	87.2 (41)	*10.6 (5)
Engaged in vaginal intercourse in past 3 months	100 (47)	-----	-----
"Always" used condoms for vaginal intercourse in past 3 months	-----	100 (47)	-----
Engaged in oral intercourse in past 3 months	89.4 (42)	8.5 (4)	*2.1 (1)
"Always" used condoms for oral intercourse in past 3 months	-----	100 (43)	-----
Engaged in anal intercourse in past 3 months	17.0 (8)	83.0 (39)	-----
"Always" used condoms for anal intercourse in past 3 months	12.5 (1)	87.5 (7)	-----
Planned condom use			
Plan to use condoms in next 3 months	34.0 (16)	66.0 (31)	-----
Plan to "Always" use condoms in next 3 months	25.0 (4)	75.0 (12)	-----
STI and HIV Testing			
Female has ever had STI testing	78.7 (37)	21.3 (10)	-----
Female has ever had HIV testing	31.9 (15)	68.1 (32)	-----
Male partner has ever had STI testing	42.6 (20)	55.3 (26)	2.1 (1)
Male partner has ever had HIV testing	25.5 (12)	72.3 (34)	2.1 (1)
Partners waited for 3 months before HIV testing	12.8 (6)	87.2 (41)	-----
Partners had mutual HIV/STI tests	-----	100 (47)	-----
Partners both planning STI/HIV testing in next 3 months	36.2 (17)	63.8 (30)	-----

Note: *Indicates that the data was missing.

Note: This table does not include participants who reported engaging in safer-sex behaviours at baseline.

care) at baseline, those that reported safer-sex behaviour on the baseline questionnaire were removed from the primary analyses. Nevertheless, since it is possible that women reporting safer-sex at baseline could become unsafe by follow-up, analyses examining the impact of the intervention on maintenance of safety over time were conducted. Moreover, movement toward safety was also conducted using participants who reported being unsafe at baseline (included under Additional Analyses).

Definition of Safer-Sex Relationships at Baseline

Women were identified as being safer (e.g., "safer-sex relationship") or unsafe (e.g.,"unsafe relationship") based on their reports of their own and their partner's sexual behaviour on the baseline questionnaire. Women were identified as involved in a safer-sex relationship if their reported sexual behaviour (within the past 3 months) fell into at least one of the following safer-sex categories:

1. No current partner or no vaginal intercourse within the past 3 months,
2. Both the male *and* female partners in the couple were coitally inexperienced when they met (e.g., each denied the presence of previous sexual partners), and reported being in a monogamous relationship,
3. Female reported that her male partner "Always" used condoms for vaginal *and* anal sex within the past 3 months. Due to very low rates of condom use for oral sex at baseline (e.g., $M = 4.91$, $SE = .06$) condom use for oral sex was not included.
4. Both male *and* female partners in the couple were tested for STIs *and* HIV *during* their current relationship (e.g., women were not included if they or their partner

were tested *before* their current relationship) *and* reported currently being in a monogamous relationship,

5. If the female participant reported that only one partner had a previous sexual partner (e.g., the other partner was a virgin when the couple met), the partner who reported previous sexual partners was tested for STIs *and* HIV *during* the current relationship (with negative test results), *and* reported being in a monogamous relationship.

All other participants (e.g., those who did not fit into at least one of the above categories) were coded as "unsafe" at baseline.

Conservative Safer-Sex Definition

It is important to keep in mind that the study's definition of safer-sex behaviour is quite conservative. In general, whenever it was unclear whether the woman and her partner were engaging in safer-sex behaviour, the relationship was considered unsafe. For example, if a woman reported that she and her partner had engaged in mutual HIV/STI testing (with negative results), but was "unsure" whether the relationship was monogamous, this relationship was categorized as unsafe unless they reported completely consistent condom use (if it is unclear whether a relationship is monogamous, the couple needs to "Always" use condoms in order to remain safe). Moreover, this definition of safer-sex assumes that a relationship is unsafe if either partner was tested before their current relationship. This was done because it was unclear whether the partner who had been tested had any unprotected sexual contact with another partner between the date that they were tested and the beginning of their current monogamous relationship. Finally, in

some cases women did not report any STI/HIV testing for their partners at baseline, but then at follow-up reported STI/HIV tests for their partners that pre-dated the baseline questionnaire. Since we were interested in safer-sex status at baseline, we went with what was reported on the baseline questionnaire (e.g., what women knew to be true at that point in time). This is an interesting point however, as it is possible that the questionnaire (or intervention) prompted women to ask their male partners about their testing history. In this case, female partners may have learned about tests that they were not aware of (and therefore may have been safer than they thought). Nevertheless, when it is unclear whether one's current sexual relationship is safer (e.g., the relationship is monogamous, and the partner has received negative test results for STI and HIV tests that were done after any unprotected intercourse with previous partners), the couple should "Always" be using condoms. Note however, that while the definition of safer-sex is generally conservative, condom use consistency is based on self reported behaviour over the past 3 months.

Characteristics of Safer-Sex Relationships at Baseline

Of the 67 participants with valid and complete data, 20 (9 intervention and 11 comparison) reported safer-sex behaviour at baseline. Of these, 20% reported no sexual partner or no sexual intercourse over the past 3 months, 15% reported that they were coitally inexperienced when they met their current partner, 20% reported "Always" using condoms, 20% reported negative STI/HIV test results for both partners, and 25% reported a combination of safer-sex behaviours and circumstances. Specifically, 15% of those reporting a combination of safer-sex behavior and circumstances indicated that they were

coitally inexperienced and monogamous; 5% reported negative STI/HIV tests for both partners and that they always used condoms; and 5% reported negative STI/HIV tests for both partners, they always used condoms, and they were coitally inexperienced. Therefore, while the majority of participants included in the current study were not engaging in safer-sex behaviours at baseline (e.g., 70.14%, n = 47) the participants who were tended to engage in a number of safer-sex behaviours at the same time. Please refer to Table 5 for more information on safer-sex behaviours at baseline overall, and for information on safer-sex behaviour in the intervention and comparison groups. Note that analyses examining the characteristics of safer-sex relationships can be found in the Exploratory Analysis section.

Measures and Materials

Women's Survey: Baseline and Follow-Up

Two self-report questionnaires were designed to assess pre- and post-intervention levels of contraceptive use, specific sexual behaviors, and testing behaviors to determine whether the intervention had an impact on participants' safer or risky sexual behavior and STI/HIV testing practices. Specifically, the baseline questionnaire included items assessing *Background Information* such as age, marital status, ethnic background, and current educational program. Both questionnaires included items requesting *Relationship Information* such as duration of dating relationship and sexual relationship, the presence of a previous sexual partner (for male and female partners), and whether their current

Table 5

Percent and Frequency of Safer-Sex Behaviours for Women Involved in Safer-Sex Relationships at Baseline

Safer-Sex Behaviour	Overall % (n)	Group	
		Intervention % (n)	Comparison % (n)
No sexual partner or no sexual intercourse	20.0 (4)	33.3 (3)	9.1 (1)
Partners were coitally inexperienced (CI) when they met and monogamous	15.0 (3)	11.1 (1)	18.2 (2)
Always use condoms	20.0 (4)	33.3 (3)	9.1 (1)
Always use condoms and CI	15.0 (3)	11.1 (1)	18.2 (2)
Negative HIV/STI tests for both partners	20.0 (4)	0 (0)	36.4 (4)
Negative HIV/STI tests for both partners, always use condoms, and CI	5.0 (1)	11.1 (1)	0 (0)
Negative HIV/STI tests for both partners and always use condoms	5.0 (1)	0 (0)	9.1 (1)

Note: There are no significant differences between intervention and comparison groups for any of the above categories.

sexual relationship was monogamous. In terms of *Contraceptive Information*, participants were asked to indicate the method(s) of contraception and the frequency that these contraceptives were being used. Contraceptives included: "The Pill", the contraceptive patch, Depo Provera, Nuva Ring, male condom, female condom, contraceptive sponge, diaphragm, cervical cap, Lea contraceptive, IUD, hormonal IUCD, rhythm method/fertility awareness, emergency contraceptive pill, and spermicide.

Participants were asked to indicate whether they had engaged in vaginal, anal, and/or oral intercourse with their partners over the last 3 months and how often they (e.g., their male partner) used condoms (1=*Always,* 2=*Usually,* 3=*Sometimes,* 4=*Rarely,* 5=*Never*) for each type of intercourse. In addition, participants were asked to indicate whether they intended to use oral contraceptives and condoms in the next three months. In the section on *Testing Information* participants were asked to report the date, location, and test results for STI and HIV tests that they and/or their partner had received. They were also asked to indicate whether they: were tested for HIV/AIDS at least 3 months after their last unprotected intercourse, engaged in mutual HIV testing, planned to get STI/HIV testing in the next three months, and whether both partners were virgins when they met.

In the follow-up survey only, participants were asked about their clinic appointment. More specifically, they were asked to indicate whether or not they received a Safer-Sex Information Package from their doctor, what they found most/least interesting/helpful in this package, how they would improve the information that they received, whether they shared any of this information with their partner, and what they would change about their doctor's appointment. Participants were given plenty of room at

the end of both questionnaires to include comments, questions, or concerns about the questionnaires. Refer to Appendix A for the Baseline and Follow-up Questionnaires.

Telephone Survey

A telephone survey, administered approximately 2 weeks after recruitment, was designed as a basic intervention fidelity check to examine whether participants in the intervention group received the Safer-Sex Information Package and behavioral prescription during their appointment with the physician, and to make sure that comparison participants did not receive any of these intervention materials. More specifically, the researcher called every participant and asked her open-ended questions about completing the baseline questionnaire, comments on the baseline questionnaire, and whether the physician provided any suggestions or advice during the appointment. Each participant was also asked whether she received a prescription for oral contraception, how many months were prescribed, whether she made a follow-up appointment with the physician or clinic, what she was currently doing about birth control, what she found most/least helpful about the appointment, whether she shared any information with her partner, and how she would improve the information that she received. At the end of the telephone conversation each participant was reminded of the follow-up questionnaire (3 months after baseline) and was asked to confirm her contact information (home phone number, cell phone number, email address, and summer contact person/information). Please refer to Appendix B for a copy of the telephone survey.

Intervention Materials

According to Fisher and Fisher's (1992) Information, Motivation and Behavioural Skills (IMB) model, interventions directed toward enhancing sexual health need to include the following: 1) behaviourally relevant and developmentally appropriate information, 2) personally or socially motivating elements (e.g., demonstrate how the need to act applies to them), and 3) the provision of opportunities to acquire and practice the skills necessary to make behaviour change. The intervention materials in the current study were designed with these components in mind. Specifically, the Safer-Sex Information Package provided participants with information about STI/HIV risk in Canadian couples, how STIs and HIV are transmitted and contracted, and strategies to reduce one's risk of infection. The personal relevance of this information was highlighted during each patient's appointment with the physician and through the prescription of a safer-sex strategy (e.g., for completely consistent condom use or through mutual STI/HIV testing). Finally, opportunities to acquire the skills necessary to engage in safer-sex behaviours were provided through the STI/HIV testing requisitions (provided by the doctor), the safer-sex communication scripts, the instructions on how to use condoms, and the inclusion of free condoms in the Safer-Sex Information Package. These materials are described in more detail below.

Physician Form

The Physician Form was attached to the baseline questionnaire and was presented by study participants to their physician at the beginning of the appointment for

contraceptive care. It identified study participants and indicated to the physician whether participants had been randomly assigned to the intervention group (a green form) or comparison group (a white form). This form asked participants to include their name, signature, and the date. Please refer to Appendix C for a copy of the Physician Form.

Prescription Pad Counselling Guide

The "Prescription Pad Counselling Guide" contained a list of questions that physicians asked participants in the intervention group. These questions asked each female patient the following: whether she was sexually active, what she was currently doing to prevent STIs, and whether she or her partner had ever had another sexual partner. The physician then recommended that the patient choose between one of two safer-sex strategies: consistent condom use (together with hormonal contraception), and/or mutual STI/HIV testing with mutual monogamy.

Safer-Sex Prescription and Follow-up Appointment Slip

Physicians were given a Safer-Sex Prescription Pad indicating the safer-sex behaviour(s) that they were prescribing to the participant. The physician could recommend one of two safer-sex strategies: 1) consistent condom use (together with oral contraception), and/or 2) mutual STI/HIV testing with mutual monogamy. The physician also completed a Follow-Up Appointment Slip for each participant in the intervention. This slip suggested that the participant come back in 3 months time to assess her satisfaction with the prescribed oral contraceptive, and to discuss safer-sex strategies. Please refer to Appendix C for all of the intervention materials described above.

Safer-Sex Information Package

The Safer-Sex Information Package was created by the researchers for the participants in the intervention group. It contained the following materials: a Prescription for Couples; a list of relevant community resources; a STI fact sheet and three recommended safer-sex strategies; alternate perspectives on common condom excuses; specific safer-sex scripts; instructions on how to use a condom; additional condom tips and ideas; information on common STI/HIV testing procedures and additional community resources; and 6 condoms. Please refer to Appendix D for a copy of the Safer-Sex Information Package.

Procedure

Inclusion Criteria

In order to participate in the current study, participants had to meet the following inclusion criteria: 1) female between 18-30 years of age, 2) currently involved in a heterosexual relationship, 3) have an appointment with one of the physicians participating in the study, 4) requesting a prescription for a hormone based contraceptive (e.g., "The Pill", Depo-Provera, Evra Contraceptive Patch, NuvaRing, or Hormonal IUD), 5) not married or engaged to be married, and 6) not pregnant or planning a pregnancy.

Participants were randomly assigned to the intervention or standard of care comparison group through the use of green or white Physician Forms that were attached to the baseline questionnaire[4]. Participants were asked to complete this form (along with

[4] Since Dr. #2 provided standard contraceptive care to her first 5 patients (rather than delivering the intervention to those randomly assigned to the intervention group), these patients were all

the baseline questionnaire) prior to their appointment and hand it to their physician. Even numbered study packages contained green Physician Forms (for the intervention group) while odd numbered study packages contained white Physician Forms (for the comparison group). In instances where participants did not meet study criteria, the primary investigator removed these individuals from the study after confirming their responses (whenever possible) over the telephone.

Recruiting Clinics and Physicians

A number of efforts were made to recruit physicians from the on-campus health clinics at three different Canadian Universities; The University of Western Ontario, The University of Toronto, and York University. Initially, the directors of each clinic were approached in person to discuss the purpose and procedures of the study. The directors then discussed the study with the physicians at the clinic and in some cases (e.g., York University), set up a meeting where the researchers could discuss the current study, answer questions, and recruit interested physicians. Although physicians at all three clinics showed interest in the study (and ethics approval was received for each site), only physicians from the student health clinic at York University followed through by attending training sessions and incorporating the intervention into their contraceptive care appointments.

Although it would have been ideal (from an experimental design perspective) to randomly assign clinics and their physicians to administer only one of the two study conditions (intervention or standard contraceptive care) to female patients, this was not

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assigned to the comparison group. This was done after confirming (by telephone) with the female participant that she had indeed received standard contraceptive care during her appointment with the physician.

feasible, as only one clinic was successfully recruited to participate in this research. Moreover, should a single clinic or a small number of clinics have been randomly assigned to deliver the intervention or standard contraceptive care, there would have been a critical confound of intervention or standard of care with idiosyncratic characteristics of the individual clinics assigned to deliver them. To avoid such a problem, a great number of clinics would have had to have been randomized to deliver the intervention or standard of care. Given these considerations, we had hoped to randomly assign individual physicians to deliver either the intervention or standard contraceptive care. However, only 4 physicians agreed to participate in this study. With such a small sample of physicians, we were again concerned that the physicians' idiosyncratic characteristics would be confounded with the intervention and standard contraceptive care conditions. Thus, based on restrictions due to the small number of clinics and physicians recruited, the physicians in the current study were asked to deliver both the intervention and standard contraceptive care conditions to different patients, who were randomly assigned to each of these conditions. In this way, physician characteristics would be equated across intervention and control conditions. We did recognize, however, that this approach would increase the chance of cross-contamination and compensatory equalization by the physicians, since they would be learning what might be seen as a superior care approach and they might be motivated to apply it in all their interactions with contraceptive patients. Due to concerns surrounding cross-contamination and compensatory equalization (e.g. the tendency to deliver the best possible care to all patients), physicians were given frequent reminders of the intervention treatment protocol (following training), and a Telephone Survey was implemented to monitor the fidelity of intervention delivery.

Initial Contact

Participants were recruited through study advertisements that were posted in the student health centre and in public spaces on the university campus. Flyers were also left in the waiting room at the student health centre, distributed to female university students in public places on campus, and distributed through sexual health information sessions provided by the university. (Refer to Appendix E for a copy of the study advertisement and flyer.) The aim of these flyers and posters was to recruit women who were planning to make an appointment (or had already made an appointment) with a physician in the student health clinic in order to obtain a prescription for oral contraception. Therefore, participants were recruited through self-referral. If participants met inclusion criteria and were interested in taking part in the study, they were asked to make an appointment with one of the female physicians[5] at the student health center, and when there, to pick-up an envelop containing the study materials (e.g., baseline materials) from a box located at the front desk.

The baseline study materials included a Letter of Information and Informed Consent form, the baseline questionnaire (Women's Survey: Initial), and a Physician Form. Participants were then asked to complete the package of study materials (Informed Consent and baseline survey) in the clinic waiting room and to deposit these materials in a locked "Study Drop Box" before meeting with their physician. They were also asked to complete a Physician Form and give it to their physician. Please refer to Appendix F for a copy of the Letter of Information and Informed Consent.

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[5] Intervention physicians were all female. This occurred by chance (during physician recruitment), and was not the specific intention of the study.

Physician's Office

If a female patient did not have a study form, or had been assigned to the comparison group (e.g., she gave the physician the white Physician Form), the physician provided standard contraceptive care. If the female patient was assigned to the intervention group (e.g., she gave the physician the green Physician Form), the physician was asked to incorporate questions from the Prescription Pad Counselling Guide into her contraceptive care. These questions asked the patient about current and past sexual behaviour (including risky and safer-sex behaviours) for herself and her male partner. The physician then recommended that the patient choose between one of two safer-sex strategies: 1) consistent condom use, and/or 2) mutual STI/HIV testing and mutual monogamy. This recommendation was given to the participant in the form of a written prescription from the Safer-Sex Prescription Pad. The physician then filled out a Follow-Up Appointment Slip, which suggested that the participant come back in 3 months time to assess her satisfaction with the prescribed oral contraceptive, and to discuss safer-sex strategies. Before leaving the appointment, the physician also gave the patient a Safer-Sex Information Package.

Follow-up Contact

Approximately 2 weeks after the female patient's appointment with the physician (and completion of the study consent form and baseline materials), she received a brief follow-up phone call from the researcher. The patient was asked to answer questions on the telephone survey, her contact information was confirmed and she was reminded that she would receive a follow-up questionnaire package in the mail approximately 3 months

after her initial appointment with the physician. This package contained a personalized letter indicating the parts of the study the participant had already completed and requested that she complete the follow-up questionnaire (Women's Survey: Final), and send it back to the researchers in the postage paid envelope that was provided. Participants were also reminded that they would receive $5 for each completed questionnaire received by the researchers (e.g., baseline questionnaire, telephone survey and follow-up questionnaire) up to a maximum of $15. Refer to Appendix G for a copy of the letter sent with the follow-up questionnaire.

Once all study materials were completed, participants were sent a thank-you email by the researchers. The email thanked participants for their time, indicated that they would receive a cheque in the mail from the university, and described the purpose of the study in more detail (e.g., study Feedback Form; Refer to Appendix H for the thank-you email and the study Feedback Form). In addition, all participants (intervention and comparison) were sent a copy of the Safer-Sex Information Package. Participants who did not complete the study were telephoned twice and emailed twice. If they did not respond or did not return the final questionnaire package, the researchers assumed that they were no longer interested in participating in the study. These participants were then thanked by email for their participation, sent a cheque for the portion of the study they had completed, and were emailed a copy of the study Feedback Form and Safer-Sex Information Package.

Ethics

The Research Ethics Board at the University of Western Ontario reviewed and approved the current study. Refer to Appendix I for a copy of the ethics approval notices.

Results

Overview of Analyses

Results of this research are presented in five parts. The first part consists of an examination of baseline equivalence between the intervention and comparison groups as well as attrition analyses. These two analyses were conducted to ensure that the groups were equivalent at baseline, and to determine whether there were differences between participants who completed the study and participants who did not. The second set of analyses review information that was collected on the Telephone Survey to determine whether the intervention group received the intervention-related materials during their physician appointment (e.g., physician recommendations, Safer-Sex Information Package, and behavioural prescription), and to ensure that the comparison group did not receive these materials (e.g., received standard contraceptive care).

In the third section of analyses, the main hypotheses are tested. These hypotheses evaluated the impact of the intervention on condom use consistency (at follow-up concerning the past 3 months, and planned for the next 3 months), and STI/HIV testing behaviours for women and their male partners (e.g., the addition of STI or HIV tests since baseline, mutual HIV/STI testing, HIV/AIDS testing conducted 3 months after unprotected intercourse, and planned mutual STI/HIV testing within the next 3 months). As described in the introduction, it was expected that participants in the intervention group would report increased rates of condom use consistency and STI/HIV testing at follow-up when compared to the comparison group. In addition, the impact of sexual relationship length on condom use consistency and testing behaviours at follow-up was explored, as well as the relationship between condom use consistency at baseline and

condom use consistency at follow-up for general condom use and condom use for vaginal, oral, and anal intercourse. It was anticipated that those in shorter sexual relationships would be more likely to demonstrate increased rates of condom use consistency, while those in longer sexual relationships would report more STI/HIV testing behaviours. Moreover, those who were using condoms consistently at baseline were expected to be more likely to use condoms consistently at follow-up. Specific sets of planned comparisons were examined directly using independent *t*-tests for between subject effects, analysis of covariance (ANCOVA) was employed to examine changes in condom use consistency at follow-up by removing condom use consistency at baseline, and chi-square tests were used for the analysis of nominal data.

In part four of these results, additional analyses were conducted to examine the impact of the intervention on the maintenance of safety from baseline to follow-up, and the movement from unsafe to safer-sex behaviour from baseline to follow-up. In the final section of the results, exploratory analyses were conducted to determine whether there were any significant differences between the following: 1) women involved in safer-sex relationships at baseline and those who were not, 2) women involved in relationships that were safer due to active engagement in safer-sex behaviours (e.g. "Intentional Safety") versus women involved in relationships that were safer due to circumstances (e.g., no previous partners; "Incidental Safety"), and 3) women who reported "Always" using condoms and oral contraception compared to women who did not report consistent use of both contraceptive methods. Chi-square and *t*-test analyses were conducted to explore these questions.

Baseline Equivalence

Several analyses were performed to determine whether the intervention and comparison groups were equivalent at baseline, removing those who were engaging in safer-sex at baseline from the analyses (e.g., 11 of 34 were engaging in safer-sex in the comparison group, and 9 of 33 were engaging in safer-sex in the intervention group). The analyses included the 47 participants who had valid and complete data, and who reported unsafe sexual behaviour at baseline. Independent *t*-tests were performed on all continuous baseline data (e.g., age, years dated, length of relationship, and frequency of contraception use). No significant differences were found.[6] Chi-Square analyses were also conducted on nominal data to determine if there were any differences between intervention and comparison groups at baseline. The dependent variables included the following: physician seen, marital status, ethnic category, presence of previous sex partners, relationship monogamy, length of dating relationship, presence of testing behaviours, plans for future condom use, and whether testing occurred before or during current relationship. No significant differences were found between intervention and comparison groups on any of the nominal baseline measures.

Attrition Analysis

Of the 105 participants recruited, 17 were removed from the study because they failed to meet the following study criteria: completion of the study consent form (5 individuals), completion of the baseline questionnaire (1 individual), currently involved

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[6] There was a marginally significant association between Age and Group [$t(45) = -1.99$, $p = .052$), where the Intervention group was somewhat older ($M = 22.96$, $n = 24$) than the Comparison group ($M = 21.65$, $n = 23$; equal variances assumed). Given that the analyses are conservative (e.g., no corrections were performed), Age will not be covaried out of the analyses.

in a heterosexual relationship (7 individuals), had an appointment for hormonal contraception with one of the participating physicians (2 individuals), and not married or engaged to be married (1 individual was engaged). Therefore, the attrition analyses included the 88 individuals recruited for the study who met all of the study inclusion criteria.

Independent *t*-tests were performed on all continuous data to determine whether there was a significant difference between those who completed the study (e.g., baseline and follow-up questionnaires; n = 67) and those who did not complete the study (e.g., completed the baseline questionnaire, but not the follow-up questionnaire, n = 21). The dependent variables included the following: age, length of dating relationship, length of sexual relationship, consistency of contraceptive use (e.g., the pill, contraceptive patch, Depo Provera, female condom, male condom, contraceptive sponge, IUCD, hormonal IUCD, withdrawal, rhythm method/fertility awareness, emergency contraceptive pill, and spermicide), planned use of oral contraception in the next 3 months, and planned condom use consistency for vaginal, anal, and oral intercourse over the next 3 months. Consistency ratings for contraceptive use (past or planned) were rated on a 5-point Likert scale ranging from 1=*Always* to 5=*Never*. Therefore low scores reflected more consistent contraceptive use.

A significant association was found between Attrition and Spermicide Use [$t(54) = 2.21$, $p < .05$, Levene's test, $p < .05$, equal variances not assumed], such that women who completed the study were more likely to report somewhat more consistent spermicide use ($M = 4.82$, n = 55) compared to women who did not complete the study ($M = 5.00$, n = 19). Although no other significant differences were found, the association

between Attrition and Oral Contraception approached significance [$t(26.3) = 2.01$, $p = .055$, Levene's test, $p < .05$, equal variances not assumed]. Specifically, women who completed the study reported somewhat more (albeit not significantly more) consistent use of Oral Contraception ($M = 1.57$, n = 65) when compared to women who did not complete the study ($M = 2.40$, n = 20). Consistency ratings for current use of spermicide and oral contraception were based on a 5-point Likert scale ranging from *Always* (1) to *Never* (5). No other significant differences were found. Note that in order to assess attrition covariates conservatively, no adjustment was made to control the error rate. Since a significant association was found between Attrition and Spermicide use at baseline, spermicide use was covaried out of all analyses included in the Hypothesis Testing section.

Chi-square tests were performed on categorical data to examine possible differences between those who completed the study and those who did not. Dependent variables included the following: physician seen, group (Intervention versus Comparison), marital status, ethnic group, education, year of study, relationship status, presence of a previous sex partner (for female and for her male partner), engaged in intercourse over the past 3 months (e.g., vaginal, anal, oral), engaged in STI and HIV testing (for female and her male partner), tested during the current relationship, tested 3 months after last unprotected intercourse, engaged in mutual HIV/STI testing, and whether planning to be tested for STIs/HIV within the next 3 months. No significant differences were found between those who completed the study and those who did not in terms of categorical data.

Intervention Fidelity Testing: Telephone Survey

The telephone questionnaire was designed as a basic validity check to determine whether participants in the intervention group received intervention materials as intended (e.g., the Safer-Sex Information Package, Safer-Sex Prescription, 3 month prescription for birth control, and the Follow-up Appointment Slip) and that the comparison group did not receive such materials. Of all women who provided complete and valid data and were not engaging in safer-sex behaviour at baseline, 95.7% (n = 45) completed the telephone survey. The vast majority (82.2%) of women completed the baseline questionnaire prior to their appointment, as requested by the researchers, although 13.3% completed it after their appointment, and 4.4% were unsure whether they completed the questionnaire before or after their appointment. This is important to keep in mind as the participants who completed the baseline questionnaire after their appointment may have responded to questions differently (e.g., to make responses more in line with physician recommendations).

Overall, 91.1% (n = 41) of participants reported that they received a prescription for oral contraception during their appointment with the physician (90.9% of the Intervention group, 91.3% of the Comparison group). While the length of the prescription ranged from 0 to 14 months ($M = 5.24$, $SE = .6$), a t-test revealed no significant differences between the Intervention group ($M = 5.31$ months, $SD = 3.87$, n = 21) and the Comparison group ($M = 5.18$ months, $SD = 4.1$, $n = 22$) in terms of the average length (in months) of the prescription for oral contraception. This is worth noting, as physicians were asked to provide Intervention participants with 3 months of oral contraception in

order to encourage them to make another appointment for additional birth control and to check-in about STI/HIV testing.

Chi-square analyses were conducted to determine whether there was an association, as anticipated, between Group (Intervention and Comparison) and the delivery of intervention related materials. The following dependent variables were included: completion of telephone survey, when the baseline questionnaire was completed (before or after the doctor's appointment), whether a prescription for oral contraception was given, physician recommendations for contraception and testing (e.g., consistent condom use along with oral contraception, mutual STI/HIV testing, or no condoms if monogamous and STI/HIV tests all come back negative), whether a 3-month follow-up appointment was made, whether there were plans to make a 3-month follow-up appointment, current form of "birth control" (e.g., condoms only, condoms and oral contraception, oral contraception only), whether appointment information was shared with the male partner, and whether a Safer-Sex Information Package was received from the physician. As anticipated, a number of significant associations were found, indicating a significant difference (as intended) in appointments for women in the intervention versus standard contraceptive care groups.

A significant association between Group and General Physician Recommendations for Contraception and Testing was found [$\chi^2(1) = 16.55, p < .001$], such that women in the Intervention group were significantly more likely to report that their physician made general recommendations around contraception or testing (86.4%, n = 19) when compared to women in the Comparison group (26.1%, n = 6). This difference was anticipated as the Intervention involved physician recommendations regarding these

two issues. A significant association was also found between Group and specific Physician Recommendation for Mutual HIV/STI Testing as well [$\chi^2(1) = 10.80$ $p = .001$], such that women in the Intervention group were significantly more likely to report that their physician recommended mutual STI/HIV testing during their appointment (100%, n = 19) when compared to women in the Comparison group (50%, n = 3). Although this difference was expected (physicians were asked to make this recommendation to the Intervention group), it is surprising that so many women in the Comparison group also reported this recommendation. In addition, it is also somewhat surprising that women in the Intervention group did not report significantly higher levels of other recommendations such as consistent condom use or the option to stop using condoms if mutual HIV/STI tests come back negative and they were in a monogamous relationship.

As expected, a significant association was found between Group (Intervention versus Comparison) and receipt of a Safer-Sex Information Package [$\chi^2(1) = 21.41$ $p <$ .001], such that women in the Intervention group were significantly more likely to report that they received a Safer-Sex Information Package (86.4%, n = 19) when compared to the Comparison group (17.4%, n = 4). While this difference was expected, it is somewhat surprising that 13.6% (n = 3) of the women in the Intervention group reported that they did not receive a Safer-Sex Information Package (as this was part of the intervention), and that 17.4% of the Comparison group reported that they received the intervention materials. Since the Safer-Sex Information Package was one of the key components of the intervention, this finding should be kept in mind when discussing group differences on treatment related variables (e.g., participants in the Comparison group were not supposed to receive any of the intervention-based materials or specific physician

recommendations). However, this could be due (in part) to women's inaccurate recollection of what occurred during their appointment with the physician.

Finally, an association was found between Group (Intervention versus Comparison) and whether information about the appointment was shared with the male partner [$\chi^2(1) = 6.34\ p < .05$]. Specifically, women in the Intervention group were significantly more likely to share any information about their appointment with their male partner (100%, n = 21) when compared to women in the Comparison group (73.9%, n = 17). This is interesting as it indicates that the women in the Intervention group were more likely to discuss physician-related recommendations and information when compared to the Comparison group. Even though the intervention group received the Safer-Sex Information Package (and perhaps had more concrete information to share), many women also reported that they discussed other sexual health related information from the appointment with their partners (e.g., their prescription for hormonal contraception, recommendations for use, and information regarding potential side effects).

With respect to the Safer-Sex Information Package, as noted, 86.4% of women in the Intervention group reported on the telephone survey that they received this package from their physician. When asked what they remembered about the package, most participants remembered the STI/HIV Fact Sheet (57.9%, n = 11), followed by the Prescription for Couples (52.6%, n = 10), How to Put a Condom On (36.8%, n = 7), Condom Tips, (26.3%, n = 5), Testing Information (26.3%, n = 5), and Safer-Sex Scripts (21.2%, n = 4), respectively.[7]

[7] Participants often reported that they remembered a number of things about the safer-sex package. Therefore, the categories overlap and the percentages do not add up to 100%.

Participants were also asked about the Safer-Sex Information Package on the follow-up questionnaire. At follow-up, 95.8% (n = 23) of participants in the Intervention group reported that they received the safer-sex package, and none of the participants in the Comparison group reported that they received the package. Of the 23 participants who received the safer-sex package, 87% (n = 20) reported that they looked at the package, and 91.3% (n = 21) shared the package with their male partner.

In summary, there were a number of expected differences between the Intervention and Comparison groups on the key intervention materials (e.g., the Intervention group was significantly more likely to report that they received the Safer-Sex Information Package; that they shared information from their appointment with their male partner; and that their physician recommended mutual HIV/STI testing). There were also, however, a number of areas where significant differences were expected, but were not found. Specifically, the Intervention and Comparison groups did not differ in terms of the length of their prescription for hormonal contraception, even though women in the Intervention group were supposed to receive a 3 month prescription. In addition, women in the Intervention and comparison groups were equally likely to report that their physician recommended completely consistent condom use. Finally, even though the Intervention encouraged women to make a 3-month follow-up appointment with their physician (for another prescription for oral contraception, and to report on testing intentions or results), women in the Intervention were not significantly more likely to book a follow-up appointment when compared to the Comparison. Since students at this university clinic were not permitted to make appointments 3 months ahead of time (e.g., they had to call 4 weeks in advance), they may have forgotten to do so once they were

permitted to book an additional appointment. Therefore, this may have been due, in part, to the specific policies around booking appointments at this clinic.

Hypothesis Testing: Impact of the Intervention on Discrete Safer-Sex Outcomes

Hypothesis #1: Impact of the Intervention on Condom Use Consistency and STI/HIV Testing

It was hypothesized that participants in the Intervention group, who received physician-initiated STI prevention counselling, would report more consistent condom use and would be more likely to report mutual STI/HIV testing when compared to participants who received standard contraceptive care (Comparison group). An analysis of covariance (ANCOVA) was conducted (on all valid data for women who were not involved in safer-sex relationships at baseline) to determine whether there were any differences between the Intervention and Comparison group on condom use consistency. Condom use consistency was rated using a 5-point Likert scale ranging from 1= *Always* to 5=*Never*. The following variables from the follow-up questionnaire were included: overall condom use, condom use for vaginal intercourse, condom use for anal intercourse, condom use for oral intercourse, and planned condom use consistency in next 3 months (for those who plan to use condoms in next 3 months). The covariate was the equivalent measure of condom use consistency at baseline. This was done to increase sensitivity to any change at the individual level over time. Since there was a significant

association between Spermicide use and Attrition (as reported at baseline), spermicide use at baseline was also covaried out of the following analyses[8].

Results indicated that women in the Intervention group were significantly more likely [$F(1, 5) = 29.04$, $p < .01$, power = .89, equal variances assumed] to report planned consistent condom use over the next 3 months ($M = 1.33$, n = 3) when compared to the Comparison group ($M = 3.17$, n = 6)[9]. It is interesting to note that 17.65% (6 of 34) women in the Comparison group reported planned condom use in the next 3 months, compared to 9.09% (3 of 33) of women in the Intervention group. Thus, while a greater proportion of women in the Comparison group were planning to use condoms in the next 3 months, women in the Intervention group were planning to use them more consistently. No other significant differences between the Intervention and Comparison groups were found (refer to Table 6 for a summary of these results). There were, however, a number of baseline covariates that were significant (e.g., condom use overall, condom use for vaginal intercourse, and condom use for oral intercourse).[10] This indicates that condom use at baseline is associated with condom use at follow-up for condom use overall, and condom use specifically for vaginal and oral intercourse in the last 3 months. Note that

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[8] Recall that there was a marginally significant association between Age and Group at baseline (as reported in the Baseline Equivalence section of the analyses). The results do not change when these analyses are conducted with the inclusion of Age as a covariate.

[9] Of the 47 participants included in this analysis, only 9 (3 intervention, 6 comparison) reported on both questionnaires (e.g., baseline and follow-up) that they were planning to use condoms in the next 3 months (e.g., condom use consistency for vaginal, anal, or oral intercourse over the past 3 months). Since planned condom use consistency only includes those who indicated that they were planning to use condoms, the sample size for this analysis was very small.

[10] Condom use in general over the last 3 months [$F(1,32) = 15.03$, $p < .001$, Levine's Test NS (Comparison n = 17; Intervention n = 19)]; condom use specifically for vaginal intercourse in the last 3 months [$F(1, 34) = 22.09$, $p < .001$ Levene's Test, NS (Comparison n = 19, Intervention n = 19)]; and condom use for oral intercourse in the last 3 months [$F(1, 30) = 5.31$, $p < .05$ Levene's Test NS (Comparison n = 18, Intervention n = 16)].

Table 6: Examining the Association Between Group and Condom Use Consistency at Follow-Up

Condom Use Consistency *(1 = Always, 5 = Never)*	*F* -Value	Group	
		Intervention *M* (*SD*, n)	Comparison *M* (*SD*, n)
Overall (past 3 months)	1.08	4.00 (1.38, 19)	3.71 (1.45, 17)
For vaginal intercourse (past 3 months)	.30	4.11 (1.41, 19)	3.95 (1.13, 19)
For oral intercourse (past 3 months)	1.05	5.00 (.00, 16)	4.94 (.24, 18)
For anal intercourse (past 3 months)	.38	4.67 (.58, 3)	4.33 (.58,3)
Planned condom use consistency over next 3 months *(only those who planned to use condoms were included)*	29.04**	1.33 (.58, 3)	3.17 (.75, 6)

Note: ** denotes significance $p < .01$

the spermicide covariate was not significant in any of the above analyses, and therefore was not significantly associated with past or planned condom use consistency.

Chi-square tests were used to examine categorical data to determine if there were differences between Intervention and Comparison groups in relation to STI/HIV testing behaviours. The STI/HIV testing behavior variables (from the follow-up questionnaire) included the following for women and their male partners: STI or HIV testing since baseline, waited 3 months after last unprotected intercourse before getting HIV/AIDS tests done, engaged in mutual STI/HIV testing, and planning mutual HIV/STI testing. Since STI/HIV testing since baseline was not assessed directly on the follow-up questionnaire, the date of the most recent test (as reported at follow-up) was compared to the date of the baseline questionnaire. STI/HIV tests that occurred before the date of the questionnaire were coded as "tested before baseline" and STI/HIV tests that were dated after the baseline questionnaire (as reported at follow-up) were coded as "tested after baseline". No significant effects of the Intervention were found on STI/HIV testing behavior. However, the association between Group and Female Testing Timeline approached significance (e.g., $\chi^2(2) = 5.91$, $p = .052$). Specifically, women in the Intervention group were somewhat more likely to be tested for HIV after the baseline questionnaire (25%, n = 6) compared to women in the Comparison group (4.5%, n = 1), while women in the Comparison group were more likely to be tested before the baseline (36.4%, n = 8) compared to the Intervention group (12.5%, n = 3). It is important to keep in mind that the cell sizes in this analysis are very small (e.g., < 5 per cell in some

instances).[11] Refer to Table 7 for the association between group and STI/HIV testing behaviour at follow up.

Additional chi-square analyses were conducted to determine whether Group (Intervention versus Comparison) had a significant impact on testing behaviours at follow-up for participants who were *not tested at baseline*. Thus, women who reported at baseline that they or their male partner had already been tested for STIs or HIV were removed from corresponding analyses of follow-up testing behaviour. For example, if a woman reported that she was tested for STIs at baseline she was removed from analyses examining the occurrence of women's STI testing at follow-up. The same was done for women who reported that their male partner had undergone testing at baseline (e.g., STI or HIV testing). Of the 67 participants with valid data, 17 women reported at baseline that they had not been tested for STIs, 38 reported that their male partner had not been tested for STIs, 42 reported that they had not been tested for HIV, and 47 reported that their male partner had not been tested for HIV. These individuals were therefore included in the following analyses.

Testing behaviours at follow-up included the occurrence of STI testing for female and or male partners since baseline, and HIV testing for female and/or male partners since baseline. No significant associations were found between Group (Intervention vs. Comparison) and testing behaviours at follow-up for those who were not tested at baseline. Thus, for participants who did not report STI and/or HIV tests at baseline (for themselves or their male partners) the intervention did not have a significant impact on

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[11] Although the Yates correction for continuity can be applied when one obtains small frequencies (e.g., $n < 5$ per cell) and the degrees of freedom is equal to 1 (e.g., 2X2 table), it will produce very conservative probability estimates (Delucchi, 1993). Since Howell (1992) indicated that power is more likely to be a problem than Type I error rates, the Yates correction was not applied.

Table 7

Examining the Association Between Group and STI/HIV Testing Behaviour at Follow-up

STI/HIV Testing Behaviours	χ^2 Value	Group	
		Intervention % (n)	Comparison % (n)
Female STI testing timeline	.48		
Tested before baseline		33.3 (8)	39.1 (9)
Tested after baseline		37.5 (9)	39.1 (9)
Unsure of testing timeline		8.3 (2)	4.3 (1)
No test reported		20.8 (5)	17.4 (4)
Male STI testing timeline	1.73		
Tested before baseline		26.1 (6)	40.9 (9)
Tested after baseline		13.0 (3)	4.5 (1)
Unsure of testing timeline		-----	-----
No test reported		60.9 (14)	54.5 (12)
Female HIV testing timeline	5.91		
Tested before baseline		12.5 (3)	36.4 (8)
Tested after baseline		25.0 (6)	4.5 (1)
Unsure of testing timeline		----	----
No test reported		62.5 (15)	59.1 (13)
Male HIV testing timeline	1.07		
Tested before baseline		33.3 (8)	22.7 (5)
Tested after baseline		8.3 (2)	4.5 (1)
Unsure of testing timeline		----	----
No test reported		58.3 (14)	72.7 (16)
Partners waited 3 months after unprotected intercourse before HIV test	.22		
True		12.5 (3)	17.4 (4)
False		87.5 (21)	82.6 (19)
Partners had mutual STI/HIV testing	-----		
True		-----	-----
False		100.0 (24)	100.0 (23)
Partners planning (mutual) STI/HIV test in the next 3 months	.60		
True		45.8 (11)	34.8 (8)
False		54.2 (13)	65.2 (15)

Note: There were no significant differences between the Intervention and Comparison group on any of the above STI/HIV testing variables.

testing behaviours at follow-up when compared to participants receiving standard contraceptive care (e.g., Comparison group). However, due to the small cell sizes, significant differences may have been found with a larger sample.

Hypothesis # 2: Association between Length of Sexual Relationship and Condom Use Consistency

Due to the predicted interference of relationship intimacy with condom use, it was hypothesized that participants who reported sexual relationships of a shorter duration would be more likely to report more consistent condom use after the intervention. Participants rated condom use consistency on a 5-point Likert scale ranging from 1 = *Always* (use condoms) to 5 = *Never* (use condoms). Participants were asked (on baseline and follow-up questionnaires) to indicate how long they had been having sexual intercourse (vaginal or anal, or oral) with their current partner, and were asked to check one of 7 categories: 1) *Less than a month,* 2) *One to three months,* 3) *Six months to one year,* 4) *More than one year,* 5) *We haven't had sexual intercourse*, and 6) *I do not have a sexual partner.*[12] Participants were then divided into 2 categories based on the reported length of their sexual relationship at follow-up: short sexual relationship (e.g., 1 year or less), or long sexual relationship (e.g., more than 1 year)[13].

ANCOVAs were conducted to examine the association between Group (Intervention versus Comparison) and Length of Sexual Relationship (Short vs. Long) on reported condom use consistency. Participants who reported no sexual relationship at

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[12] All participants (e.g., n = 47) reported that they were currently involved in a sexual relationship (e.g., no one fell into either of the last 2 categories).

[13] Although the length of participants' dating relationship was not used in this analysis, there is a significant correlation (e.g., $r = .62$, $p < .001$) between length of dating relationship (n = 46) and length of sexual relationship (n = 46).

follow-up were excluded from these analyses (e.g., 1 individual in the Intervention group). Reported condom use consistency included the following variables: overall condom use, condom use for vaginal intercourse, condom use for anal intercourse, condom use for oral intercourse, and planned condom use consistency over the next 3 months (only those who planned to use condoms in next 3 months responded to this item). The equivalent measure of condom use consistency at baseline (e.g., overall condom use at baseline) was covaried out of each individual ANCOVA. In addition, because there was a significant association between Spermicide and Attrition at baseline, spermicide use was included as a covariate.

A significant effect of Length of Sexual Relationship was not found for any of the dependent variables. Participants in Short sexual relationships did not report significantly greater rates of condom use consistency over the past 3 months (overall, or for vaginal, oral, or anal intercourse) or planned for the next 3 months when compared to participants in Long sexual relationships. However, it is interesting to note that participants in Short sexual relationships tended to report slightly more consistent condom use over the past 3 months (for overall condom use and condom use for vaginal, oral, and anal intercourse), but that participants in Long sexual relationships were slightly more likely to report planned consistent condom use over the next 3 months. These differences may have approached significance if a larger sample size had been used. Refer to Table 8 for the association between Length of Sexual Relationship and condom use consistency.

Table 8

Examining the Association Between Length of Sexual Relationship and Condom Use Consistency at Follow-up

Condom Use Consistency *(1 = Always, 5 = Never)*	*F* -Value	Length of Sexual Relationship	
		Short *(≤1 year)* *M* (*SD*, n)	Long *(>1 year)* *M* (*SD*, n)
Overall (past 3 months)	.04	3.40 (1.35, 10)	4.12 (1.36, 25)
For vaginal intercourse (past 3 months)	1.62	3.82 (1.17, 11)	4.19 (1.27, 26)
For oral intercourse (past 3 months)	.86	4.91 (.30, 11)	5.00 (.00, 22)
For anal intercourse (past 3 months)	-----	4.00 (0.00, 2)	4.75 (.50, 4)
Planned condom use over next 3 months	.004	3.00 (.82, 4)	2.25 (1.50, 4)

Hypothesis #3: Association Between Length of Sexual Relationship and STI/HIV Testing with Monogamy

It was hypothesized that participants in longer sexual relationships (e.g., > 1 year) would be more likely to report mutual STI/HIV testing and monogamy after the intervention when compared to those in shorter sexual relationships (e.g., ≤ 1 year). Chi-square analyses were conducted to examine whether STI/HIV testing varied as a function of Group (Intervention versus Comparison) or Length of Sexual Relationship (Short versus Long). Testing behaviours included the occurrence of male and female STI and HIV tests done since baseline, and mutual STI/HIV testing as reported at follow-up. In addition, analyses included the following dependent variables: planned mutual STI/HIV testing within the next 3 months, and currently involved in a monogamous relationship.

Results revealed a significant association between Length of Sexual Relationship and Planned Mutual STI/HIV Testing [$\chi^2(1) = 9.48$, $p < .05$], such that individuals in a Short sexual relationship were significantly more likely to report that they were planning mutual HIV/STI testing in the next 3 months (76.9%, n =10) when compared to individuals in Long sexual relationships (27.3%, n = 9)[14]. Thus, the longer a couple has been in a sexual relationship, the less likely they are to seek out STI or HIV testing. Overall, then, women in Short sexual relationships (e.g., 1 year or less), were more likely to report that they were planning mutual HIV/STI testing with their male partner in the next 3 months when compared to women in Long sexual relationships. No other

[14] Of all valid, complete and unsafe participants at baseline (n = 47) who reported being in a sexual relationship at follow-up (n = 46), only 19 women (41.3% of 46) indicated that they and their partner were planning HIV/STI testing in the next 3 months. Of these, 76.9% (n =10) were in Short sexual relationship and 27.3% (n = 9) were in Long sexual relationships. Thus, the cell sizes are small for this analysis.

significant effects of Length of Sexual Relationship were found. In addition, a significant effect of Group was not found for any of the dependent variables. Refer to Table 9 for a summary of these results.

Hypothesis #4: Impact of Condom Use Consistency at Baseline on Condom Use Consistency at Follow-Up

It was hypothesized that participants who reported consistent condom use at baseline would be more likely to report consistent condom use after receiving the intervention when compared to those who reported inconsistent condom use. Male Condom Use (overall condom use) at baseline was used to create this grouping category. Participants who reported that they used male condoms *Always* or *Usually* were placed in the Consistent Condom Users (CCU) Group, and participants who reported that they used condoms *Sometimes*, *Rarely* or *Never* were placed in the Inconsistent Condom Users Group. There were 6 individuals in the CCU Group (2 intervention, 4 comparison), and 34 individuals in the ICU Group (19 intervention, 15 comparison). Condom use consistency ratings were based on a 5-point Likert scale (e.g., 1 = Always, 2 = Usually, 3 = Sometimes, 4 = Rarely, and 5 = Never). Therefore, low scores reflect high levels of consistency.

ANOVAs were conducted to examine the impact of Group (Intervention versus Comparison) and Condom Use Consistency at Baseline (Consistent Condom Use versus Inconsistent Condom Use) on reported condom use consistency at follow-up (e.g., condom use overall, condom use for vaginal, oral, and anal intercourse, and planned

Table 9

Examining the Association Between Length of Sexual Relationship and STI/HIV Testing Behaviours at Follow-up

Description of STI/HIV Testing Behaviours	χ^2 Value	Length of Sexual Relationship	
		Short *(≤1 year)* % (n)	Long *(> 1 year)* % (n)
Female STI testing timeline	2.93		
Tested before baseline		30.8 (4)	39.4 (13)
Tested after baseline		53.8 (7)	30.3 (10)
Unsure of testing timeline		7.7 (1)	6.1 (2)
No test reported		7.7 (1)	24.2 (8)
Male STI testing timeline	1.18		
Tested before baseline		33.3 (4)	34.4 (11)
Tested after baseline		16.7 (2)	6.3 (2)
Unsure of testing timeline		-----	-----
No test reported		50.6 (6)	59.4 (19)
Female HIV testing timeline	2.36		
Tested before baseline		30.8 (4)	21.9 (7)
Tested after baseline		23.1 (3)	9.4 (3)
Unsure of testing timeline		-----	-----
No test reported		46.2 (6)	68.8 (22)
Female HIV testing timeline	1.59		
Tested before current relationship		28.6 (2)	40.0 (4)
Tested during current relationship		57.1 (4)	60.0 (6)
Unsure whether before/during		14.3 (1)	0.0 (0)
No current partner			
Male HIV testing timeline	2.32		
Tested before baseline		23.1 (3)	31.3 (10)
Tested after baseline		15.4 (2)	3.1 (1)
Unsure of testing timeline		----	----
No test reported		61.5 (8)	65.6 (21)

Description of STI/HIV Testing Behaviours	χ^2 Value	Length of Sexual Relationship	
		Short *(≤1 year)* % (n)	Long *(> 1 year)* % (n)
Partners waited 3 months after unprotected intercourse before HIV test	.80		
True		7.7 (1)	18.2 (6)
False		92.3 (12)	81.8 (27)
Partners had mutual STI/HIV testing	-----		
True		----	----
False		100.0 (13)	100.0 (33)
Partners planning (mutual) STI/HIV test in the next 3 months			
True	9.48**	76.9 (10)	27.3 (9)
False		23.1 (3)	72.7 (24)
Involved in a monogamous relationship	-----		
True		100.0 (11)	100.0 (33)
False		-----	-----

Note: ** signifies significance at the $p < .01$ level.

condom use consistency). In addition, spermicide use at baseline was included as a covariate in order to control for the significant association between Spermicide and Attrition at baseline.

The results revealed a significant association between Condom Use Consistency at Baseline and Condom Use for Oral Intercourse at follow-up [$F(1, 31) = 4.70, p < 05$].[15] Women who reported Consistent Condom Use (CCU) at baseline were significantly more likely to report consistent condom use for oral intercourse at follow-up ($M = 4.75$, $SD = .50$, n = 4), when compared to women who reported Inconsistent Condom Use at baseline ($M = 4.97$, $SD = .18$, n = 32), although we note that frequency of this behaviour was very low overall. A significant association between Condom Use Consistency at baseline was not found for any of the other condom use dependent variables, including overall condom use consistency over the past 3 months, specific condom use consistency for vaginal or anal intercourse, and planned condom use consistency over the next 3 months. In addition, as found previously, a significant association between Group (Intervention versus Comparison) and measures of condom use consistency at follow-up was not found for any of the dependent variables. Therefore, women who reported consistent condom use (CCU) at baseline (*Always/Usually*) were significantly more likely to report consistent condom use for oral intercourse at follow-up when compared to participants who reported inconsistent condom use (ICU) at baseline (e.g., *Sometimes/Rarely/Never*),

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[15] Since women tend to discontinue condom use after the receipt of a prescription for oral contraception, these results were re-run with oral contraceptive (OC) use at follow-up included as a covariate. However, even after removing any effects of OC use, the same results were found. A significant main effect of Condom Use Consistency at baseline on condom use for oral intercourse at follow-up was found [$F(1, 30) = 4.71, p < .05$; $M_{CCU} = 4.75$, $SD = .5$, n = 4; $M_{ICU} = 4.97$, $SD = .18$, n = 32)]. No other significant effects were found. Moreover, when age at baseline was included as an additional covariate (because it was marginally significant in the baseline equivalence analyses), the only significant effect included the Age covariate for male condom use at follow up [$F(1,29) = 5.10, p < .05$].

acknowledging the overall infrequency of this behavior. Nevertheless, both groups (e.g., ICU and CCU) reported very inconsistent rates of condom use for oral intercourse (e.g., "rarely" or "never" used condoms) over the past 3 months. Refer to Table 10 for a summary of these results.

Additional Analyses

The purpose of the current study was to evaluate whether the intervention was successful in *decreasing* sexual risk behaviours and increasing safer-sex behaviours from baseline to follow-up. However, we were also interested in the impact of the intervention on: 1) maintenance of safety from baseline to follow-up, and 2) movement from unsafe to safer (but not completely safe) sex behaviour from baseline to follow-up. These analyses are reported following the definition of safer-sex behaviour at follow-up.

Definition of Safer-Sex Relationships at Follow-up

Women were identified as being safer (e.g., "safer-sex relationship") or as unsafe (e.g.,"unsafe relationship") based on their reports of their own and their male partner's sexual behaviour on the follow-up questionnaire. Women were identified as belonging to a "safer-sex relationship" if their reported sexual behaviour (within the past 3 months) fell into at least one of the following safer-sex categories on the follow-up questionnaire:

1. No current partner or no vaginal intercourse within the past 3 months,
2. Both the male *and* female partners in the couple were virgins when they met (e.g., denied presence of previous sexual partners), and reported being in a

Table 10

Examining the Association Between Condom Use Consistency at Baseline and Condom Use Consistency at Follow-up

Condom Use Consistency at Follow-up *(1 = Always, 5 = Never)*	*F* -Value	Condom Use Consistency at Baseline	
		Inconsistent Condom Use *M* (*SD*, n)	Consistent Condom Use *M* (*SD*, n)
Overall (past 3 months)	.19	4.09 (1.28, 32)	2.00 (.82, 4)
For vaginal intercourse (past 3 months)	1.18	4.24 (1.16, 34)	2.25 (.50, 4)
For oral intercourse (past 3 months)	4.70*	4.97 (.18, 32)	4.75 (.50, 4)
For anal intercourse (past 3 months)	----	4.25 (1.04, 8)	-----
Planned condom use over next 3 months	.54	3.13 (1.46, 8)	2.50 (.58, 4)

Note: * signifies significance at the $p < .05$ level

monogamous relationship with the same sexual partner as indicated on the baseline questionnaire,

3. Female reported that her male partner "Always" used condoms for vaginal *and* anal sex within the past 3 months (due to very low rates of condom use for oral sex, this variable was not included),
4. Both the male *and* female partner in the couple were tested for STIs *and* HIV *during* their current relationship (e.g. women were not included if they or their male partner were tested *before* their current relationship), *and* reported being in a monogamous relationship with the same sexual partner as indicated on the baseline questionnaire,
5. If it was reported that only one partner had a previous sexual partner (e.g., the other partner was a virgin when the couple met), the partner who was coitally experienced was tested for STIs *and* HIV *during* the current relationship (with negative test results), and the participant reported being in a monogamous relationship with the same sexual partner as indicated on the baseline questionnaire.

All other participants (e.g., those who did not fall into at least one of the above categories) were coded as "unsafe" at follow-up.[16]

[16]It is important to note that female participants were only considered "safer" when HIV and STI testing was done within the context of their current sexual relationship. Therefore, although some women reported negative results on all STI/HIV tests for both partners, they were not considered safer when some/all of the testing was done before their current relationship. While this definition seems conservative, it was unclear for these women whether there had been any other sexual partners between the time that they and/or their partner were tested and the point at which they met their current monogamous partner. Thus, they were considered unsafe.

Maintenance of Safety from Baseline to Follow Up

The data was examined to determine whether participants who were engaging in safer-sex behaviour at baseline were more likely to *maintain* their safer-sex status (n = 16) versus becoming *unsafe* (n = 4) after receiving the intervention when compared to those receiving standard contraceptive care. Chi-square analyses were conducted to examine the impact of Group (Intervention versus Comparison) on Safer-Sex Status (e.g., Maintained Safety versus Became Unsafe) from baseline to follow-up. The analyses included women who reported engaging in safer-sex at baseline (n = 20). A significant association between Group and Safer-Sex Status was found [$\chi^2(1) = 6.11, p < .05$)], such that women in the Comparison group were significantly more likely to report that they had Maintained their safer-sex behaviour since baseline (100%, n = 11) when compared to women in the Intervention group (55.6%, n = 5). Women in the Intervention group were significantly more likely to become Unsafe by follow-up (44.4%, n = 4) when compared to women in the Comparison group (0%, n = 0). Thus, women in the Comparison group were more likely to maintain their safer-sex behaviour over time when compared to women in the Intervention group who appeared to become less safe over time.

Movement Toward Safety

In order to explore the issue of movement toward safer or less safe sexual behavior, data were examined to determine whether participants in the Intervention group who were unsafe at baseline were more likely to make *any* behavioural changes towards safety by follow-up, when compared to participants in the Comparison group. Individuals were coded as: "*more safe*" if their sexual behaviour became safer overall (e.g., increased

consistency of condom use, STI/HIV testing in at least one partner, or they became completely safe by follow-up). Alternatively, women's relationships were identified as *"less safe"* if they were safer at baseline compared to follow-up (e.g., reduced condom use consistency without any testing, started a new sexual relationship but did not use condoms or seek out testing, etc.,), and "*stayed the same*" if they did not make any behavioural changes to become more safe or less safe by follow-up. Of the 51 participants with valid data who were unsafe at baseline, 15.7% (n = 8) of participants became *less safe,* 35.3% (n = 18) of participants *stayed the same,* and 49% (n = 25) became *more safe* at follow-up. Of the 25 participants that became more safe, 24% (n = 6) became completely safe (e.g., "Newly Safe") by follow-up. Therefore their status changed from unsafe to safe due to their safer-sex behaviours

Chi-square analyses examined the association between Group (Intervention versus Comparison) and Movement Toward Safety since baseline (e.g., More Safe, Less Safe, No Change since baseline), as well as between Group and change in specific sexual behaviours since baseline (e.g., change in sexual behaviour, change in condom use consistency, addition of STI and/or HIV tests for male and/or female partners). Significant associations were <u>not</u> found between Group and Movement Toward Safety or change in specific sexual behaviours. Thus, the intervention did not have a significant impact on movement to or from safety or on condom use consistency (e.g., an increase or decrease for vaginal and/or anal intercourse), STI/HIV testing behaviours (e.g., male and/or female partner added/updated STI and/or HIV tests), or on the frequency and type of intercourse (e.g., increase or decrease in oral, anal, or vaginal intercourse) when

compared to standard contraceptive care. Refer to Table 11 for a summary of these results.

Exploratory Analyses: Comparing Women Involved in Safer and Unsafe Sexual Relationships

Given that the focus of the current research concerned safer sexual practices within women's committed relationships, additional analyses were conducted to explore differences between participants who were reporting different types or levels of safer-sex behaviours. Comparisons included participants who reported the following *at baseline*: 1) safer (n = 20) versus unsafe (e.g., risky) sexual behaviour (n = 47); 2) Intentional Safety (e.g., actively engaged in safer-sex behaviours such as completely consistent condom use; n = 13) versus Incidental Safety (e.g., safety due to relationship circumstances, such as no previous partners and in a monogamous relationship; n = 6); and 3) completely consistent use of condoms *and* oral contraception (e.g., "Always"; n = 7), versus those who did not report completely consistent use of both contraceptives (n = 60).

Do Women in Safer-Sex Relationships Differ From Women Involved in Unsafe Sexual Relationships at Baseline?

Exploratory *t*-tests were conducted to examine possible differences between women that were engaging in safer-sex (e.g., Safer Relationships, n = 20) at baseline to those who were unsafe (e.g., Unsafe Relationships, n = 47). Comparisons included all

Table 11

Comparing Women in the Intervention and Comparison Groups Who Were Unsafe at Baseline to Determine Any Movement Toward Safety By Follow-up

Description	χ^2 Value	Group	
		Intervention % (n)	Comparison % (n)
Safety at Follow-Up	2.22		
Newly safe at follow-up		17.9 (5)	4.3 (1)
Remained unsafe at follow-up		82.1 (23)	95.7 (22)
Movement Toward Safety from Baseline to Follow-up	.37		
Same – no movement		32.1 (9)	39.1 (9)
Better – more safe at follow-up		50 (14)	47.8 (11)
Worse – less safe at follow-up		17.9 (5)	13.0 (3)
Safer Behaviour at Follow-Up	3.57		
No sexual behaviour		3.6 (1)	-----
Always use condoms		3.6 (1)	4.3 (1)
Mutual HIV/STI tests done		7.1 (2)	-----
No partner + all HIV/STI tests done		3.6 (1)	-----
Change in Sexual Behaviour since Baseline	5.59		
Discontinued sexual intercourse since baseline		7.1 (2)	------
Discontinued anal intercourse since baseline		7.1 (2)	------
Began vaginal intercourse at baseline		3.6 (1)	------
No changes in intercourse from baseline to follow-up		82.2 (23)	100 (23)
Change in Condom Use since Baseline	2.50		
Increased condom use			
Vaginal and anal intercourse		3.6 (1)	------
Vaginal intercourse only		14.3 (4)	21.7 (5)
Anal intercourse only		3.6 (1)	-----
Decreased condom use (vaginal intercourse)		25.0 (7)	17.4 (4)
No change		53.6 (15)	60.9 (14)
Additional or Updated STI/HIV Testing	8.99		
Female added/updated tests			
STI test only		14.3 (4)	30.4 (7)
HIV test only		3.6 (1)	-------
HIV and STI test		21.4 (6)	4.3 (1)

Description	χ^2 Value	Group	
		Intervention % (n)	Comparison % (n)
Male added/updated tests			
STI test only		3.6 (1)	-----
HIV test only		-----	-----
HIV and STI test		3.6 (1)	-----
Both partners updated tests			
Female updated STI and male updated HIV and STI		-----	4.3 (1)
Male and female updated all STI/HIV tests		3.6 (1)	-----
No change in testing		50.0 (14)	60.9 (14)

Note: No significant differences between groups were found for any of the variables listed.

continuous data variables: age, length of dating relationship, length of sexual relationship, condom use consistency (female condoms, male condoms overall and male condoms specifically for oral, anal, and vaginal intercourse), consistent use of other contraception (e.g., oral contraception, the patch, Depo Provera, Nuva Ring, sponge, diaphragm, cervical cap, lea, IUD, hormonal IUCD, withdrawal, rhythm, ECP, spermicide), as well as plans to use condoms in next 3 months. Consistency ratings for all contraceptives were based on a 5-point Likert scale ranging from 1 (*Always*) to 5 (*Never*). Thus, low scores on consistency ratings indicate high levels of consistency.

As expected, results of the *t*-test revealed that women in Safer Relationships were significantly more likely to report consistent use of male condoms at baseline ($M = 2.15$, $n = 20$), compared to women in Unsafe Relationships ($M = 3.76$, $n = 42$; $t(60) = 4.89$, $p < .001$; equal variances assumed). It is interesting to note that while a significant difference was not found between women in Safer and Unsafe Relationships in terms of oral contraceptive use, women in Unsafe Relationships were slightly (but not significantly) more likely to report consistent use of oral contraception (e.g., $M = 1.52$, $n = 46$) when compared to women in Safer Relationships ($M = 1.68$, $n = 19$). Refer to Table 12 for a summary of the means, frequencies and *t*-scores for participants who were safer versus unsafe at baseline.

Chi-square tests were also conducted to examine the difference between participants who reported engaging in safer-sex at baseline, and those who reported being unsafe at baseline, on all frequency and categorical data. Results of the chi-square tests revealed a number of differences between participants who reported engaging in safer-sex and those who did not at baseline. As expected (based on the definition of safer-sex

Table 12

Comparing Participants Engaging in Safer and Unsafe Sexual Behaviour at Baseline: Examining Means, Frequencies, and *t*-scores

Description	Unit of Measurement	*t*-Value	Group	
			Not Safe n=47 *M* (*SD*)	Safer n=20 *M* (*SD*)
Age	Years	.18	22.32 (2.31)	22.20 (2.76)
Years dated	Years	.75	2.00 (1.88)	1.64 (1.49)
Length of sexual relationship	Months	.67	4.36 (1.01)	4.10 (1.62)
Contraceptive Use Consistency	1=Always, 5=Never			
Male Condom		4.89***	3.76 (1.17)	2.15 (1.31)
For vaginal sex		4.61	4.13 (1.08)	2.24 (1.56)
For oral sex		-.31	4.91 (.37)	4.94 (.25)
For anal sex		1.19	4.25 (1.39)	3.00 (2.31)
The "Pill"		-.45	1.52 (1.24)	1.68 (1.49)
Contraceptive Patch		-1.96	4.70 (.97)	5.00 (.00)
Depo Provera		-1.67	4.80 (.76)	5.00 (.00)
Female Condom		-.67	4.97 (.16)	5.00 (.00)
Contraceptive Sponge		-.67	4.95 (.32)	5.00 (.00)
Withdrawal		-.35	3.93 (1.31)	4.06 (1.25)
Rhythm Method		-.73	4.65 (.92)	4.82 (.53)
Emergency Contraceptive Pill		1.06	4.84 (.43)	4.65 (.70)
Spermicide		.91	4.87 (.58)	4.71 (.69)
Condom use consistency next 3 months		2.03	2.50 (1.03)	1.82 (.88)

Note: *** denotes significance at $p < .001$.

relationships at baseline), a significant main effect of Safety Status (Safer versus Unsafe) was found for a number of variables, including: 1) female partner has had previous sexual partners, 2) male partner has had previous sexual partners, 3) relationship monogamy, 4) engaged in vaginal intercourse over the past 3 months, 5) planning to use condoms in the next 3 months, 6) engaged in mutual STI/HIV testing, and 7) both partners were virgins when they met. More specifically, when compared to women who reported unsafe sexual behaviours at baseline, women who were involved in *safer-sex relationships* at baseline were significantly *more likely* to report that:

1. they were sexually inexperienced when they met their current male partner [e.g., 50% of women in Safer Relationships versus 10.6% of women in Unsafe Relationships; $\chi^2(1) = 12.51, p < .001$],
2. their male partner was sexually inexperienced when they first met [e.g., 35% versus 4.3% of women in Unsafe Relationships; 4.3%; $\chi^2(2) = 11.90, p < .01$],
3. both they and their partner were virgins when they first met (e.g., 35% versus 4.3% of women in Unsafe Relationships; $\chi^2(1) = 11.41, p = .001$],
4. they had not engaged in vaginal intercourse with their partner over the past 3 months [e.g., 15% versus 0% of women in Unsafe Relationships; $\chi^2(1) = 7.38, p < .001$],
5. their current relationship was *not* monogamous [e.g., 10% versus 0% of women in Unsafe Relationships; $\chi^2(2) = 7.38, p < .05$],
6. they and their partner had engaged in mutual STI/HIV testing [e.g., 10% versus 0% of women in Unsafe Relationships; $\chi^2(1) = 4.85, p < .05$], and they were

planning to use condoms over the next 3 months [e.g., 85% versus 34% of women in Unsafe Relationships; $\chi^2(1) = 14.58, p < .001$].

Therefore, while many of the results reflect the definition of safer-sex behaviour, it is interesting that women in nonmonogamous relationships are more likely to engage in safer-sex behaviours, and women who reported safer-sex behaviours at baseline were more likely to report planned condom use over the next 3 months. Refer to Table 13 for the percentages, frequencies and chi-square values for safe versus unsafe couples at baseline.

Intentional versus Incidental Safety

Upon examination of our criteria for safer-sex relationships, it became apparent that two distinct categories of safer-sex behaviours were involved: "Intentional Safety" and "Incidental Safety." Intentional Safety includes relationships where the female and her male partner *actively engage* in safer-sex behaviours within the context of their sexual relationship. These behaviours include "Always" using condoms, or mutual STI/HIV testing combined with monogamy (or STI/HIV testing for partners who reported previous sexual partners). Incidental Safety occurs as a result of the specific circumstances that the female and her male partner find themselves in that result in safety (e.g., *safer by default*). For example, if the female participant reports that she and her male partner are coitally inexperienced and monogamous, they would be "safer by default." In instances where women reported a combination of Incidental and Intentional safety behaviours (e.g., both partners were coitally inexperienced when they met,

Table 13

Comparing Women Involved in Safer and Unsafe Sexual Relationships at Baseline: Examining Chi-square Values, Percentages and Frequencies

Description at Baseline	χ^2 Value	Group	
		Not Safe % (n)	Safer % (n)
Marital status	2.01		
Single (unmarried)		56.5 (26)	72.2 (13)
Living with partner		37.0 (17)	27.8 (5)
Common law		6.5 (3)	0.0 (0)
Ethnic group	4.58		
Asian/Asian Canadian		4.3 (2)	10.0 (2)
Black/African Canadian		6.4 (3)	0.0 (0)
Hispanic/Latino		6.4 (3)	0.0 (0)
White/Caucasian		63.8 (30)	80.0 (16)
Other		19.1 (9)	10.0 (2)
Physician seen	1.81		
Dr. 1		40.1 (19)	50.0 (9)
Dr. 2		51.1 (24)	50.0 (9)
Dr. 3		4.3 (2)	0.0 (0)
Dr. 4		4.3 (2)	0.0 (0)
Currently dating	2.39		
Yes		100.0 (47)	95.0 (19)
No		0.0 (0)	5.0 (1)
In a monogamous relationship	7.38	100.0 (47)	85.0 (17)
True		0.0 (0)	10.0 (2)
False			
Length of sexual relationship	10.64		
Less than 1 month		0.0 (0)	10.0 (2)
1 month to 3 months		10.0 (5)	10.0 (2)
3 months to 6 months		6.4 (3)	10.0 (2)
6 months to 1 year		19.1 (9)	15.0 (3)
More than 1 year		63.8 (30)	45.0 (9)
No sexual intercourse		0.0 (0)	5.0 (1)
No current partner		0.0 (0)	5.0 (1)
Female has had a previous sexual partner	12.51***		
True		89.4 (42)	50.0 (10)
False		10.6 (5)	50.0 (10)

Description at Baseline	χ^2 Value	Group	
		Not Safe % (n)	Safer % (n)
Male has had a previous sexual partner	11.91		
True		91.5 (43)	65.0 (13)
False		4.3 (2)	35.0 (7)
Don't know		4.3 (2)	0.0 (0)
Engaged in vaginal intercourse	7.38**		
Yes		100.0 (47)	85.0 (17)
No		0.0 (0)	15.0 (3)
Engaged in oral intercourse	1.67		
Yes		8.7 (4)	20.0 (4)
No		91.3 (42)	80.0 (16)
Engaged in anal intercourse	.085		
Yes		17.0 (8)	20 (4)
No		83.0 (39)	80.0 (16)
Planned hormone in next 3 months	.43		
Yes		97.9 (46)	100.0 (20)
No		2.1 (1)	0.0 (0)
Planned condoms next 3 months	14.58***		
Yes		34.0 (16)	85.0 (17)
No		66.0 (31)	15.0 (3)
Female has had STI testing	1.40		
No		21.3 (10)	35.0 (7)
Yes		78.7 (37)	65.0 (13)
Female STI test results	.68		
Negative		94.6 (35)	100.0 (12)
Positive		------	-----
Don't know		5.4 (2)	0.0 (0)
Female STI testing timeline	3.59		
Before current relationship		13.9 (5)	15.4 (2)
During current relationship		83.3 (30)	69.2 (9)
Unsure		2.8 (1)	7.7 (1)
No current partner		0.0 (0)	7.7 (1)
Male has had STI testing	.50		
No		55.3 (26)	60.0 (12)
Yes		42.6 (20)	40.0 (8)
Don't Know		2.1 (1)	0.0 (0)

Description at Baseline	χ^2 Value	Group	
		Not Safe % (n)	Safer % (n)
Male STI test results	1.18		
Negative		85.0 (17)	100.0 (7)
Positive		5.0 (1)	0.0 (0)
Don't know		10.0 (2)	0.0 (0)
Male STI testing timeline	2.79		
Before current relationship		23.8 (5)	22.2 (2)
During current relationship		71.4 (15)	66.7 (6)
Unsure		4.8 (1)	0.0 (0)
No current partner		0.0 (0)	11.1 (1)
Female has had HIV testing	1.96		
No		68.1 (32)	50.0 (10)
Yes		31.9 (15)	50.0 (10)
Female HIV test results	-----		
Negative		100.0 (15)	100.0 (10)
Positive		-----	-----
Female HIV testing timeline	5.97		
Before current relationship		66.7 (10)	20.0 (2)
During current relationship		26.7 (4)	60.0 (6)
Unsure		6.7 (1)	10.0 (1)
No current partner		0.0 (0)	10.0 (1)
Male has had HIV testing	.98		
No		72.3 (34)	65.0 (13)
Yes		25.5 (12)	35.0 (7)
Don't know		2.1 (1)	0.0 (0)
Male HIV test results	-----		
Negative		100.0 (12)	100.0 (6)
Positive		-----	-----
Male HIV testing timeline	4.38		
Before current relationship		25.0 (3)	0.0 (0)
During current relationship		50.0 (6)	75.0 (6)
Unsure		25.0 (3)	12.5 (1)
No current partner		0.0 (0)	12.5 (1)
Partners waited for 3 months before HIV Testing	1.53		
False		87.2 (41)	75.0 (15)
True		12.8 (6)	25.0 (5)

Description at Baseline	χ^2 Value	Group	
		Not Safe % (n)	Safer % (n)
Partners had mutual STI/HIV testing	4.85*		
False		100.0 (47)	90.0 (18)
True		0.0 (0)	10.0 (2)
Partners were virgins when they met	11.4		
False		95.7 (45)	65.0 (13)
True		4.3 (2)	35.0 (7)
Partners plan mutual STI/HIV test in the next 3 months	.79		
False		63.8 (30)	75.0 (15)
True		36.2 (17)	25.0 (5)

Note: *indicates significance at the $p < .05$, ** indicates significance at the $p < .01$, and *** indicates significance at the $p < .001$ level

monogamous, and they "Always" used condoms), they were coded as "Intentional Safety".

Independent *t*-tests were performed on valid continuous data (e.g., n = 67) to determine whether there was a significant difference between those who were Intentionally Safer (n = 13) versus those who were Incidentally Safer (n = 6) at baseline (all other individuals were unsafe at baseline). The dependent variables included: age, length of dating relationship and length of sexual relationship, consistency of contraceptive use (e.g., the pill, contraceptive patch, Depo Provera, female condom, male condom, contraceptive sponge, IUD, hormonal IUD, withdrawal, rhythm method/fertility awareness, emergency contraceptive pill, and spermicide), planned consistency of the pill in the next 3 months, and planned condom use consistency for vaginal, anal, and oral intercourse over the next 3 months. No significant differences were found between women involved in Incidentally Safer relationships and Intentionally Safer relationships on any of these dependent variables.

Chi-square tests were performed on categorical data to examine possible differences between women involved in Intentionally Safer relationships and those who were Incidentally Safer at baseline. Dependent variables included the following: physician seen, group (Intervention versus Comparison), marital status, ethnic group, education, year of study, relationship status (e.g., monogamy), presence of a previous sex partner (for female and for her male partner), whether engaged in intercourse over the past 3 months (e.g., vaginal, anal, oral), STI and HIV testing for both partners, whether testing occurred during or before the current relationship, whether testing occurred 3 months after last unprotected intercourse, whether couple engaged in mutual HIV/STI

testing, and whether the couple is planning to be tested for STIs/HIV within the next 3 months.

Chi-square tests revealed a number of differences between Intentional Safety and Incidental Safety participants. As expected (based on the definition of Incidental and Intentional safety), a significant main effect of Safety Type (Incidental versus Intentional Safety) was found for a number of variables, including: 1) presence of a previous sex partner (for male and female), 2) partners were virgins when they met, 3) relationship monogamy, 4) engaged in vaginal intercourse over the past 3 months, 5) planning condom use in the next 3 months, 6) partners engaged in mutual STI/HIV testing, and 7) partners waited for 3 months prior to engaging in HIV/AIDS testing. More specifically, when compared to women who were involved in Incidentally Safer relationships (e.g., safe by "accident"), women involved in *Intentionally Safer* relationships (e.g., consistent condom use), were significantly *more likely* to report that:

1. they were currently involved in a monogamous relationship [e.g., 92.3% versus 83.8% of Incidentally Safer relationships; $\chi^2(2) = 6.23, p < .05$],
2. they had had previous sex partners [e.g., 53.8% versus 33.3% for Incidentally Safer relationships; $\chi^2(2) = 14.57, p = .001$],
3. their male partner had had previous sex partners [e.g., 69.2% versus 50.0% for Incidentally Safer relationships; $\chi^2(4) = 13.94, p < .01$],
4. they and their male partner were coitally experienced (e.g., not virgins) when they met [e.g., 69.2% versus 50% of Incidentally Safer relationships; $\chi^2(2) = 13.49, p = .001$],

5. they had engaged in vaginal intercourse over the past 3 months [e.g., 100% versus 50.0% of Incidentally Safer relationships; $\chi^2(2) = 31.43$, $p < .001$],
6. they were not planning to use condoms over the next 3 months [e.g., 23.1% versus 0% of Incidentally Safer relationships; $\chi^2(2) = 14.51$, $p = .001$],
7. they had engaged in mutual STI/HIV testing [e.g., 15.4% versus 0% of Incidentally Safer relationships; $\chi^2(2) = 8.41$, $p < .05$], and
8. they and their partner had waited at least 3 months after unprotected intercourse before HIV/AIDS testing [e.g., 38.5% versus 0% of Incidentally Safer relationships; $\chi^2(2) = 6.16$, $p < .05$].

Refer to Table 14 for a comparison of Intentionally and Incidentally Safer relationships at baseline.

Women Who "Always" Use Condoms AND Oral Contraception

After noticing that our sample included a subgroup of women who reported completely consistent use (e.g., "Always") of condoms *and* oral contraception over the past 3 months, we conducted analyses to determine how these women might differ from those who do not consistently use both. Independent *t*-tests were performed on valid continuous data (e.g., n = 67) to determine whether there was a significant difference between women who always used condoms and oral contraception (n = 7) versus those who did not (n = 60) on a number of variables at baseline. The dependent variables included: age, length of dating relationship, length of sexual relationship, consistency of other contraceptive use (e.g., contraceptive patch, Depo Provera, female condom, contraceptive sponge, IUD, hormonal IUCD, withdrawal, rhythm method/fertility

Table 14

Comparing Women Involved in Intentionally and Incidentally Safer-Sex Relationships at Baseline: Examining Chi-square Values, Percentages and Frequencies

Description	χ^2 Value	Safety Status	
		Incidental % (n)	Intentional % (n)
Group	.65		
Intervention		50.0 (3)	38.5 (5)
Comparison		50.0 (3)	61.5 (8)
Marital status			
Single (unmarried)	3.76	100.0 (4)	61.5 (8)
Living with partner		-----	38.5 (5)
Common law		-----	-----
Ethnic group	5.30		
Asian/Asian Canadian		16.7 (1)	7.7 (1)
Black/African Canadian		-----	-----
Hispanic/Latino		-----	-----
White/Caucasian		66.7 (4)	84.6 (11)
Other		16.7 (1)	7.7 (1)
Physician seen	1.74		
Dr. 1		40.0 (2)	50.0 (6)
Dr. 2		60.0 (3)	50.0 (6)
Dr. 3		-----	-----
Dr. 4		----	----
Currently dating	-----		
Yes		100.0 (6)	100 (13)
No		-----	-----
In a monogamous relationship	6.22*		
True		83.3 (5)	92.3 (12)
False		-----	----
Don't know		16.7 (1)	7.7 (1)
Female has had a previous sexual partner	14.57***		
True		33.3 (2)	53.8 (7)
False		66.7 (4)	46.2 (6)
Male has had a previous sexual partner	13.94**		
True		50.0 (3)	69.2 (9)
False		50.0 (3)	30.8 (4)
Don't know		-----	-----

Description	χ^2 Value	Safety Status	
		Incidental % (n)	Intentional % (n)
Engaged in vaginal intercourse	31.43***		
Yes		50.0 (3)	100.0 (13)
No		50.0 (3)	-----
Engaged in oral intercourse	3.18		
Yes		66.7 (4)	84.6 (11)
No		33.3 (2)	15.4 (2)
Engaged in anal intercourse	2.76		
Yes		-----	30.8 (4)
No		100.0 (6)	69.2 (9)
Planned hormone in next 3 months	.41		
Yes		100.0 (6)	100.0 (13)
No		-----	-----
Planned condoms next 3 months	14.51***		
Yes		100.0 (6)	76.9 (10)
No		-----	23.1 (3)
Female has had STI testing	2.51		
No		50.0 (3)	30.8 (4)
Yes		50.0 (3)	69.2 (9)
Female STI test results	.62		
Negative		100.0 (2)	100.0 (9)
Positive		-----	-----
Don't know		------	-----
Female STI testing timeline	8.41		
Before current relationship		33.3 (1)	11.1 (1)
During current relationship		33.3 (1)	88.9 (8)
Unsure		33.3 (1)	-----
No current partner		-----	-----
Male has had STI testing	2.77		
No		83.3 (5)	46.2 (6)
Yes		16.7 (1)	53.8 (7)
Don't know		-----	-----
Male STI test results	1.18		
Negative		100.0 (7)	85.0 (17)
Positive		-----	5.0 (1)
Don't know		-----	10.0 (2)

Description	χ^2 Value	Safety Status	
		Incidental % (n)	Intentional % (n)
Male STI testing timeline	3.95		
Before current relationship		100.0 (1)	14.3 (1)
During current relationship		-----	85.7 (6)
Unsure		-----	-----
No current partner		-----	-----
Female has had HIV testing	4.97		
No		83.3 (5)	38.5 (5)
Yes		16.7 (1)	61.5 (8)
Female HIV test results	-----		
Negative		100.0 (1)	100.0 (8)
Positive			
Female HIV testing timeline			
Before current relationship		100.0 (1)	12.5 (1)
During current relationship		-----	75.0 (6)
Unsure		-----	12.5 (1)
No current partner		-----	-----
Male has had HIV testing	2.92		
No		83.3 (5)	53.8 (7)
Yes		16.7 (1)	46.2 (6)
Don't Know		-----	-----
Male HIV test results	-----		
Negative		100.0 (6)	100.0 (12)
Positive		-----	-----
Male HIV Testing timeline	8.31		
Before current relationship		25.0 (3)	15.8 (3)
During current relationship		50.0 (6)	63.2 (12)
Unsure		25.0 (3)	21.1 (4)
No current partner		-----	-----
Partners waited for 3 months before HIV Testing	6.16*		
False		100.0 (6)	61.5 (8)
True		-----	38.5 (5)
Partners had mutual STI/HIV testing	8.41*		
False		100.0 (6)	84.6 (11)
True		-----	15.4 (2)
Partners were virgins when they met			
False		50.0 (3)	69.2 (9)
True		50.0 (3)	30.8 (4)

Description	χ^2 Value	Safety Status	
		Incidental % (n)	Intentional % (n)
Partners plan mutual STI/HIV test in the next 3 months	.96		
False		83.3 (5)	69.2 (9)
True		16.7 (1)	30.8 (4)

Note: *indicates significance at the $p < .05$, ** indicates significance at the $p < .01$, and *** indicates significance at the $p < .001$ level

awareness, emergency contraceptive pill, and spermicide), planned consistency of the pill over the next 3 months, and planned condom use consistency over the next 3 months. Results revealed a significant effect of Group (used both condoms and pill consistently versus did not use both methods consistently) on planned condom use consistency [$t(21) = 4.12$, $p = .001$, equal variances not assumed], such that women who reported completely consistent use of condoms and oral contraception over the past 3 months were significantly more likely to report planned condom use consistency over the next 3 months ($M = 1.29$, $SD = .49$, n = 7) when compared to those who did not consistently use condoms and oral contraception ($M = 2.38$, $SD = .98$, n = 26). This is similar to earlier findings that past condom use consistency predicts future condom use consistency.

Chi-square tests were also performed on categorical data to examine possible differences between Groups (combined and completely consistent use of condoms and oral contraception versus inconsistent use of one or both methods) at baseline. Dependent variables included the following: physician seen, group (Intervention versus Comparison), marital status, ethnic group, education, relationship status (e.g., monogamy), presence of a previous sex partner (for female and for her male partner), engaged in intercourse over the past 3 months (e.g., vaginal, anal, oral), STI and HIV testing for both partners, testing occurred during or before the current relationship, testing occurred 3 months after last unprotected intercourse, engaged in mutual HIV/STI testing, planning mutual STIs/HIV testing within the next 3 months, and both partners were coitally inexperienced when they met.

Results revealed a significant association between Group and Sexual Experience [$\chi^2(1) = 5.82$, $p < .05$], such that the women who reported completely consistent use of

condoms and oral contraception were more likely to report that they and their male partner were virgins when they first met (e.g., 42.9%, n = 3), compared to women who were not consistently using both contraceptive methods (e.g., 10%, n = 6). A significant effect was also found between Groups concerning the presence of previous sexual partners for the female [$\chi^2(1) = 5.43$, $p < .05$], such that women who consistently used condoms and oral contraception were more likely (e.g., 57.1%, n = 4) to be coitally inexperienced when they met their previous partner when compared to those who were not consistently using both contraceptive methods (e.g., 18.3%, n = 11). Finally, a marginally significant association was found between Group and the presence of previous sexual partners for the male [$\chi^2(2) = 5.92$, $p = .052$], such that women who reported completely consistent use of condoms and oral contraception were more likely to report that their male partner was coitally inexperienced (e.g., 42.9%, n = 3) when they first met compared to women who were not consistently using both methods of contraception. Therefore, women who consistently use oral contraception and condoms are more likely to report that they and their male partners were sexually inexperienced when they met.

Qualitative Feedback: Questionnaires, Appointment, and Intervention Materials

Participants were given the opportunity to provide qualitative feedback on all three of the questionnaires (e.g., baseline questionnaire, follow-up questionnaire, and telephone survey). These comments were informative in terms of: 1) what occurred during the appointment, 2) how participants were influenced by the appointment,

questionnaires, and intervention materials, and 3) what participants felt was helpful or missing from the intervention materials.[17]

Appointment with the Physician

Participants were generally quite pleased with their physicians and what occurred during their appointments. They felt very comfortable asking questions and viewed their physicians as resourceful and well informed (e.g., "...I really liked the way my doctor approached everything. I feel very comfortable asking her questions"). A number of participants in the intervention group made comments about the importance of the intervention-related recommendations, particularly those concerning mutual STI/HIV testing. For example, one participant indicated that the 3 month prescription for the pill and the lab requisition for HIV testing motivated her to go back to the clinic to get tested. Many others appreciated the extra encouragement they received from their physician to seek out testing:

> "I need extra encouragement to get tested, I think about it but am too scared, so hearing this advice from the doctor gave me the extra push that I needed."

> I know both people should get tested – it reinforced what I was thinking. Doctor's don't usually bring this up, I think its good because I nag him [partner] a lot.

Some participants even mentioned that the physicians could use more pressure when encouraging patients to receive testing. Moreover, one participant felt that there should be

[17] Note that a formal analysis of the qualitative data was not conducted. The following information represents an informal summary of the comments, questions, and quotations that participants provided during the course of the study.

more communication between women about issues related to safer-sex behaviours. She suggested that there be:

> "More encouragement for women to talk amongst themselves + share this info with others – this lets us know we're not the only ones facing this issue + it can give us the strength to make the right choices."

Safer-Sex Information Package

We received a considerable amount of positive feedback about the usefulness of the Safer-Sex Information Package, in terms of the information provided and the resources recommended and in relation to the impact these materials had on intervention participants' thinking. For example, when asked to comment on what was most useful about the Safer-Sex Information Package, participants in the intervention group responded with:

> "The realization that my friends and I are only concerned with not getting pregnant, not – not getting STIs".

> "Statistics, AIDS information, just the fact that the information is in your hands to read. A lot of people try to ignore and feel it will never happen to them. This gives no excuse to ignore".

> "I only wish I'd received this kind of information package when I was younger – I've been lucky but I'd prefer not to rely on luck when it comes to my health! Thank you!"

Similarly, there were comments about what participants felt should be changed in the Safer-Sex Information Package. In general, there were mixed comments about the free condoms enclosed in the envelopes. Some were pleased to have condoms on hand, while others found it unhelpful and unusual (e.g., indicating that they would rather buy

their own condoms). Moreover, many of the participants in the intervention group did not find the safer-sex scripts to be helpful. One participant suggested that the scripts be "more normal", while others felt that they would be more appropriate for younger couples (e.g., "The conversation starters ... seemed contrived. I wouldn't use them. They might be good for someone younger").

On the other hand, there were several comments by participants in the comparison group indicating that information such as an "STI awareness package" that outlines current STIs, their symptoms, and what occurs during testing would have been helpful. Participants in the comparison group also indicated that they would have appreciated information about or strategies on how to encourage their male partners to get tested. For example, one participant in the comparison group wrote

> "I would have appreciated more advice on getting my boyfriend in to be tested for STIs. He is reluctant and doesn't understand why he has to be tested if my test came back negative. Maybe some suggestions to convince him would have been helpful."

Recommendations for Change

Participants made a number of recommendations for change that included topics ranging from options for other forms of contraception (besides oral contraception and the male condom), clarification regarding some of the recommendations made (e.g., explain why one should wait for 3 months after unprotected intercourse prior to HIV testing), and additional strategies for discussing safer-sex strategies with male partners. A number of women requested more information on all available birth control methods, as well as comparisons between methods in terms of advantages and disadvantages. There was also a request for information regarding alternatives for women with latex allergies:

> "Information about women allergic to latex would be helpful. Lambskin condoms are far too expensive for students, and they DON'T protect from STDs. What other options are there out there? I've been in a monogamous relationship for seven years so I don't worry too much, but what about people who aren't?"

> "Its probably interesting to note that most women only know about the pill and condoms as contraceptive alternatives, and we are not all well educated on vaginal rings, etc. The doctors I have seen never suggested any of these non-hormonal methods when I requested the pill."

> "I would've liked an information package on ALL forms of birth control that are less common or that are fairly new (e.g., Evra Patch).

In addition, one woman suggested that the clinic provide more pamphlets about pills and safer-sex in the waiting room so that women are more informed *before* their appointments and therefore can seek out additional information when they see their physicians. Finally, women were interested in receiving more help with getting their partners involved and interested in safer-sex practices. Some recommended a similar study urging men to get tested (and then questioned whether men would actually participate), and others wanted better "safer-sex scripts" (e.g., how to request safer-sex with your partner) and more research on the strategies that are helpful in encouraging men to get tested.

Information Shared with Male Partners

Many of the participants in the intervention group also discussed what they shared with their male partner and what his reaction was. Most women reported that their

partners were receptive, supportive, and open to the information they shared from their appointment. They described how they discussed monogamy, testing histories, mutual testing, and contraception. One woman indicated that when she and her partner started to talk about testing, she found out more about his testing history and realized he had already been tested. When asked if they shared any of the information from their appointment, some of the comments received included:

> "I gave him the condoms and asked him to read the info. I also talked to him about waiting periods for diseases to surface, etc."

> "Yes, we talked about getting tested together"

> "Yes, that I got tested and that he should get STD checked, but he said he trusts all his sexual partners and has never had symptoms."

Impact of the Questionnaires

Finally, a number of participants made comments indicating that things other than the intervention influenced their behaviour. For some, simply completing the baseline and follow-up questionnaire seemed to create some change. Comments included:

> "Thanks, many of the questions asked I have never thought about. I will make more of an effort to inform myself about STI and HIV."

> "Answering these questions has caused me to reflect on my sexuality and sex and my partner."

> "The questionnaires [were] helpful in letting me know about many of the other options available to me regarding contraceptives. It also made my partner and [me] more aware of what we should discuss together. Thanks!"

Thus, it is seems possible that the questionnaires may have had an impact on safer sexual behaviour in addition to, or exceeding that of the intervention, especially when one takes into account the similarities between reports of appointments for the intervention and the standard contraceptive care groups. In many instances the comparison group received recommendations and information that was very similar to the intervention group. Specifically, one woman in the control group indicated that her physician gave her advice about where she and her boyfriend could get STI/HIV testing and received a list of where to go to do so. In addition, some members of the intervention group were so impressed with the intervention materials that they photocopied them and handed them out to their friends:

> "The sheet with the information on local resources is very helpful. I have made some copies and have given to my friends. It is handy to have in emergencies"

Therefore, it is important to keep in mind that with the combination of a small sample size and the potential for cross contamination between the intervention and comparison groups, the likelihood of significant differences between groups may well have been minimized.

Discussion

Evaluating the Impact of the Intervention on Safer-Sex Behaviours

Contrary to expectation, the intervention did not have a significant impact on participants' condom use consistency or testing behaviours (STI/HIV) over the course of the 3-month follow-up period when compared to participants receiving standard contraceptive care. Although it was anticipated that the impact of the intervention on safer-sex behaviours would also be influenced by the length of participants' sexual relationships (e.g., individuals in shorter sexual relationships would be more likely to engage in consistent condom use, and those in longer sexual relationships would be more likely to engage in mutual STI/HIV testing with monogamy) and reported condom use consistency at baseline (those reporting consistent condom use at baseline would be more likely to benefit from the intervention compared to those reporting inconsistent condom use at baseline), these variables were not significantly associated with condom use consistency or STI/HIV testing behaviours at follow-up. There are a number of possible explanations for why the intervention did not have the intended impact on participants' safer-sex behaviours, including: 1) the brief nature of the intervention and follow-up period, 2) possible compensatory equalization and cross contamination between groups, and 3) characteristics of participants recruited for this study (e.g., repeat oral contraceptive users, inconsistent condom users, and long term relationships). A discussion of each is included below.

A Brief Intervention

The purpose of the current study was to implement and evaluate a brief physician-initiated intervention designed to promote safer-sex during women's routine appointments for the prescription of oral contraception. For the intervention, physicians conducted a brief review of participants' sexual risk behaviours (e.g., current sexual activity, the presence of previous sexual partners, and steps taken to reduce the risk of STI transmission), made a specific behavioural recommendation regarding consistent condom use and/or mutual STI/HIV testing with mutual monogamy (e.g., the behavioural "prescription"), and handed out a Safer-Sex Information Package designed to increase participants' awareness of STI prevention and transmission (e.g., STI facts and statistics, community resources, safer-sex scripts, and condoms). Compared to other STI/HIV risk reduction interventions, the current intervention and 3-month follow-up was extremely brief. For example, the STI/HIV risk reduction intervention conducted by El-Bassel et al. (2005) involved 6 weekly relationship based sessions (2 hours each) with 3- and 12-month follow-ups. Although our intervention was designed with a busy university clinic in mind (e.g. easy to incorporate by physicians and by patients), the exposure to intervention materials in the current study and the follow up period were relatively brief (e.g., 10-15 minutes with the physician, 10-15 minutes to read the safer-sex package, and a 3 month follow-up period). Therefore, while easy to implement, this intervention program may have been too brief to generate significant changes in the sexual behaviour of women involved in already committed, ongoing, and well established relationships.

Equalization of Groups and Cross Contamination

The university health center physicians who agreed to participate in the current study did so with the knowledge that they would be adding extra work for no extra pay, despite having salaries based on the number of patients seen per day. Therefore, it is quite likely that these physicians were extremely motivated to provide high levels of care to their patients – especially with regard to STI/HIV awareness and prevention. Indeed, most participants reported feeling that their physician was up-to-date in terms of her knowledge of sexual health issues and relevant community resources (e.g., testing locations in the area and useful websites), they were very comfortable discussing sensitive and personal issues with their physician, and they were generally pleased with the level of care they were receiving. Moreover, the results of fidelity testing confirmed that participants in the standard contraceptive care group received very high levels of care that was not always well differentiated from the care received by the intervention group. For example, patients in the standard contraceptive care condition reported recommendations (e.g., consistent condom use, and HIV testing), and materials (e.g., testing requisitions, links to useful websites, and information resources) that were very similar to what the intervention group obtained. In addition, the standard procedures at the student health clinic involved STI testing for every female receiving a Pap smear. Since it is generally recommended that most women have a Pap smear on a regular basis once they become sexually active (and they are usually encouraged to do so before obtaining a prescription for oral contraception), the vast majority of women reported STI testing at baseline (e.g., 78.7 %). Thus, as an outcome measure, STI testing may not have been a sensitive indicator of intervention impact in the current study.

Since the same physicians conducted appointments with both study groups (e.g, intervention and standard contraceptive care), it is plausible that appointments for these two groups became more similar over time as the physicians became more accustomed to integrating the elements of the intervention into their intervention appointments. Although the intervention group was significantly more likely to report that they received the Safer-Sex Information Package, that their physician recommended mutual STI/HIV testing during the appointment, and that they shared appointment information with their partner, participants in the intervention and standard of care groups made equivalent reports about physician recommendations for consistent condom use, and the option to stop using condoms if their mutual STI/HIV tests came back negative (as long as they were involved in a completely monogamous relationship). Moreover, there was no difference between the two groups in terms of length of prescription for birth control, or intention to make a follow-up appointment within the next three months (as recommended by physicians delivering the intervention). Although the intervention included physician training, an intervention manual, booster sessions, and intervention reminders, a protocol was not created based on the standard contraceptive care that was being delivered by the physicians prior to the introduction of the intervention. This would have been a useful reference for physicians in terms of consistent delivery of their "standard contraceptive care" across time, and may have reduced the likelihood of contamination via compensatory equalization of treatment within our sample.

Finally, although participants were asked not to discuss the details of their participation in the study until the study was over, several participants indicated that they photocopied parts of the Safer-Sex Information Package in order to share it with friends

or family members. Some participants also reported that the questionnaires influenced the way they thought about their current relationships, while others completed the baseline questionnaire *after* their appointment with the physician. In the former case, baseline questionnaires completed by all participants in intervention and comparison groups could have influenced equivalent outcomes. In the later case, it is possible that participants' baseline responses to the questionnaire items were influenced by the information and recommendations made by their physician (for both intervention and standard contraceptive care patients), which may have masked any potential changes that occurred between baseline and follow-up.

There are thus a number of factors which may have led to the equalization of the intervention and standard contraceptive care groups. Specifically, the difference between the intervention and standard contraceptive care groups may have been reduced due to: high levels of care by physicians during standard contraceptive care appointments, 2) physicians unknowingly incorporating elements of the intervention into their standard contraceptive care over time, 3) the distribution of intervention materials to others by well-meaning participants, and 4) the completion of some baseline questionnaires following appointments with the physician rather than prior to these appointments. All of these factors must be taken into consideration when evaluating the effectiveness of this particular intervention strategy.

Sample Characteristics

Research has shown that the perception of a relationship as committed and monogamous often facilitates unsafe sexual practices and that initiating condom use or

making request for testing may be perceived as threatening to the relationship (Fisher et al., 1996; Misovich, Fisher & Fisher, 1997). Since the prescription for oral contraception appears to be a primary route to risky sexual behaviour among serially monogamous couples, intervention programs are more likely to be successful when they target individuals in new relationships, or those that are just about to start taking oral contraception for the first time. Unfortunately, the majority of participants recruited for the current study were *already* involved in a monogamous relationship at baseline (e.g., 100%), they had been dating their current partner for more than 1 year (63.8%), and many were living with their partner (42%). Thus, not only were these relationships well established, but it is also likely that their choice of contraception had become routine. Additionally, while the vast majority of participants (e.g., 80.9%) reported completely consistent use of oral contraception at baseline (e.g., "Always"), a very small minority (e.g., 2.1%) reported completely consistent condom use. Therefore, the women who participated in the current study were involved in well established relationships, had been using oral contraception for at least the past 3 months, and reported very inconsistent condom use at baseline. It is very likely that these participants perceived their monogamous relationships as safe from STIs, and were generally comfortable with their "usual" method of contraception (e.g., non barrier contraception for most participants). Thus, this may reflect a failure to change current contraceptive methods rather than a failure to start safer-sex practices.

Unfortunately, the *perception* of a relationship as safe from STIs often permits those who are not actually safe from STIs to engage in unprotected intercourse within the context of each of their serially monogamous relationships. Indeed, the vast majority of

participants entered into their current relationship with previous sexual experience (e.g., 89.4% of women, and 91.5% of their male partners reported previous sexual partners), most women had not been tested for HIV (e.g., 68.1%), and most of their partners had not undergone STI or HIV testing (55.3% and 72.3% respectively). In addition to the lack of testing and current condom use consistency, only 34% of women reported that they planned to use condoms over the next 3 months (only 25% of these planned to "Always" use condoms), and only 36.2% planned to undergo mutual STI/HIV testing in the next 3 months. Therefore, while the majority of the sample had engaged in risky sexual behaviour (e.g., previous sex partners and no STI/HIV testing), most were engaging in unprotected intercourse with their current sexual partners.

In summary then, the intervention did not have a significant impact on reported levels of condom use consistency or STI/HIV testing within the 3 months after baseline. Possible reasons for the lack of significant findings include the brief nature of the intervention and follow-up period, equalization and cross contamination between groups, and the preexisting characteristics of the individuals recruited for this study (e.g., repeat oral contraceptive users, inconsistent condom users, and long term relationships).

Intervention Impact on Planned Behaviour

While the intervention did not have a significant impact on reported levels of condom use consistency or STI/HIV testing within the 3 months after baseline, women in the intervention group were significantly more likely to report *planned* condom use consistency over the next 3 months. Since monogamy and relationship length tend to get in the way of condom use, and relationships tend to become more intimate and

committed over time, the impact of the intervention on planned behaviour may simply be a function of social desirability responding. Nevertheless, it is also possible that the intervention influenced participants who were open to information about risky behaviour, ready to re-evaluate their current use of contraceptives, and perhaps preparing for change. According to Prochaska and DiClemente's Transtheoretical Model of Change (1983), these behaviours would reflect individuals who are moving from the Contemplation to the Preparation (and perhaps on to the Action) stages of change. Therefore, behaviour change – in terms of increased condom use consistency or STI/HIV testing – may have been detected if the follow-up period had been longer (e.g., 6-12 months versus 3 months). Indeed, in addition to being more likely to intend to use condoms in the future (which is an indication of change according to Prochaska and DiClemente, 1983), the intervention group tended to be more likely (e.g., $p = .052$) to report that they were tested for HIV after baseline when compared to women receiving standard contraceptive care, and slightly (albeit not significantly) more likely to become "newly safe" at follow up. Thus, there is some indication that this brief intervention had a positive impact on the safer sexual behaviour (and stage of change) of women involved in committed relationships. Moreover, since most participants were with the same partner at baseline and follow-up (e.g., 97.9%), it is possible that the women in the intervention group will be more likely to implement these safer-sex strategies at the onset of their next monogamous relationship. It would be very interesting to follow participants as they move from one relationship to the next to see if those who received the intervention engage in safer-sex behaviours with the onset of their next sexual relationship.

Maintenance of Safety

Contrary to expectation, women in the intervention group who were safer at baseline were significantly more likely to become *unsafe* at follow-up when compared to women in the comparison group. Although it may initially appear as though the intervention had a negative impact on participants, there are a number of reasons why this change in safer-sex status may have occurred at follow-up. At baseline, women in the comparison group were somewhat more likely to report that they and their male partner were safer as a result of testing (14.7%) when compared to women in the intervention group (0%). On the other hand, women in the intervention group were somewhat more likely to report safety due to consistent condom use (15.1%) when compared to women in the comparison group (8.8%). Since it is easier to maintain safety after testing (e.g., remain monogamous with the same partner)[18] than to maintain safety through completely consistent condom use (e.g., continue to use condoms for every act of intercourse), it may have been easier for the comparison group to maintain their safer-sex status. Therefore, while there were no differences in the comparison and intervention groups at baseline, the differences in the *types* of safer-sex behaviour that each group engaged in may have made it relatively easier for the comparison group to maintain their safer-sex status. Obviously, this is an area that requires further research. It would also be interesting to examine whether various interventions have a greater impact on certain forms of safer-sex behaviours when compared to others.

[18] Most of the women who were safer at baseline reported that they were in the same relationship at follow-up (88.9% of the intervention group, 90.9% of the comparison group) and that their relationship was monogamous (88.9% of the intervention group, 72.7% of the comparison group).

Association Between Condom Use Consistency at Baseline and Follow-up

Contrary to expectation, the intervention did not have a greater impact on participants who reported consistent condom use at baseline compared to participants reporting inconsistent or no condom use at baseline. However, women who reported consistent condom use (*Always/Usually*) at baseline were significantly more likely to report consistent condom use at follow-up when compared to participants who reported inconsistent condom use (e.g., *Sometimes/Rarely/Never*) at baseline. Therefore, current condom use consistency appears to be the best predictor of condom use consistency over short periods of time (e.g., 3 months).

What Do Safer-Sex Relationships Look Like?

As expected, women who engaged in safer-sex behaviour at baseline (e.g., safer-sex relationships) were significantly more likely to report that they were using condoms consistently, planned to use condoms in the next 3 months, and that they had undergone mutual STI/HIV testing when compared to women involved in unsafe relationships. In addition, women involved in safer-sex relationships were significantly less likely to report that they or their partner were coitally experienced, that they had engaged in vaginal intercourse over the past 3 months, and that they were currently involved in a monogamous relationship when compared to women involved in unsafe relationships. These results are not surprising as they are by and large consistent with the study's definition of safer and unsafe sexual behaviour. Moreover, the finding that women involved in monogamous relationships are less likely to engage in safer-sex behaviour is consistent with past research as those in committed relationships tend to believe that

monogamy protects them from STIs and HIV. Therefore, monogamy and sexual inexperience (for both partners) appear to influence the perception of STI/HIV risk in women's relationships and their decision to engage in safer-sex behaviours.

Incidental versus Intentional Safety

Participants who reported engaging in safer-sex behaviour at baseline were divided into two groups, *Intentionally Safer* and *Incidentally Safer.* Women's sexual relationships were categorized as Intentionally Safer if they and their male partner actively engaged in safer-sex behaviours such as completely consistent condom use and/or mutual STI/HIV testing with monogamy. Women who were safer as a result of their relationship circumstances (e.g., both partners were virgins when they first met and were currently in a monogamous relationship, or they were not currently having intercourse) were categorized as Incidentally Safer. As expected, women involved in Intentionally Safer relationships were significantly more likely to report that they actively engaged in safer-sex behaviours such as mutual STI/HIV testing, but did not differ in terms of current condom use consistency, and were significantly less likely to report planned condom use over the next 3 months. Women involved in Intentionally Safer relationships were also significantly more likely to report that they were in a monogamous relationship when compared to women involved in Incidentally Safer relationships. Therefore, women involved in relationships where they and their male partner *actively* engaged in safer-sex behaviours were most likely to engage in mutual STI/HIV testing rather than consistent condom use. Since condoms are not needed when couples are already safer due to testing (with monogamy) - they no longer need to use

condoms, and were therefore less likely to report consistent condom use or planned condom use.

Given that researchers have found that monogamous couples are more likely to perceive their relationships as "safe" and engage in higher risk behaviours (e.g., unprotected intercourse without any STI/HIV testing), it was somewhat surprising that women involved in Intentionally Safer relationships were also more likely to report being in a monogamous relationship when compared to women involved in Incidentally Safer relationships. This may be due to the characteristics of the sample (e.g. 100% of participants reported being in a monogamous relationship at baseline), or the nature of the comparison (comparing two different types of safety, rather than safer versus unsafe relationships). Moreover, women who fell into both categories of safety (e.g., Intentional and Incidental Safety) were categorized as Intentionally Safer. That is, if a woman and her male partner were coitally inexperienced when they met, involved in a monogamous relationship (Incidentally Safer), and "Always" used condoms (Intentionally Safer), they were categorized as Intentionally Safer. Therefore these "Super Safe" relationships may be another reason why monogamy was significantly associated with safety.

Women who reported completely consistent use of condoms and oral contraception (OC) also made up a small (e.g., 10.4%), but unique portion of our sample. When compared to those who were not engaging in completely consistent use (e.g., "Always") of condoms and OCs, women who reported completely consistent use of both methods were more likely to report that they and their male partner were sexually inexperienced when they met, that they planned to use condoms over the next 3 months, and planned to use condoms more consistently. Again, sexual experience for both the

male and female partners appears to be significantly associated with safer-sex behaviours. This is in line with Reisen and Poppen's (1995) research finding that women were more likely to use condoms in their first sexual relationships. In terms of future research, it would be interesting to determine what drives some couples to be "Super Safe" (e.g., initially coitally inexperienced, completely consistent condom use, monogamous, and mutual HIV/STI testing), and to examine further the differences between those that are unsafe, those that engage in the minimum safety requirements, and those that exceed safety requirements (e.g., engage in a number of safer-sex behaviours concurrently). Unfortunately we do not have an appropriate sample size to examine this in the current study.

Association Between Length of Sexual Relationship, Condom Use and STI/HIV Testing

Although previous research has found that women are more likely to use condoms (e.g., have male partners that use condoms) within their first sexual relationships, earlier on in the relationship, and when in shorter relationships (Hammer et al., 1996; Lear, 1995; Macaluso et al., 2000; Demand, et al., 2000; Nguyen et al., 1996; Reisen & Poppen, 1995), a significant association between condom use and length of sexual relationship was not found in the current study. There are a number of reasons why these results appear to contradict other findings. According to Fortenberry's (2002) research on condom use in adolescent relationships, condom use in new relationships becomes equivalent to condom use in established relationships after the first 21 days. Therefore, from a condom use standpoint, "short" relationships may be 21 days or less, and "long"

relationships are greater than 21 days. Recall that in the current study, none of the participants reported a relationship duration of less than 1 month, and the vast majority (e.g., 63.8%) had been sexually involved for more than a year. Thus, although the participants in the current study were categorized according to the length of their current sexual relationship, our definition of a short sexual relationship was 1 year or less. Based on Fortenberry's findings for "new relationships" (e.g., 21 days or less), all of the relationships in the current study were relatively long. Therefore, it may have been unlikely that we would find a significant association between relationship length and condom use consistency within a homogeneous sample of women involved in well-established relationships. In addition, Rotermann (2005) found that condom use tends to differ according to age of first sexual intercourse. Specifically, "...the odds of not using a condom were higher for females who started having intercourse at the beginning of their teens" (e.g., by age 13) when compared to those who began at ages 14-17 or 20-24" (Rotermann, 2005, p. 40). In addition, Ford (2003) found that differences in partner age are associated with lower levels of condom use, and higher levels of STIs. Since women are more likely to be the younger partner, and they are biologically more vulnerable to infection, these issues are particularly relevant for interventions directed toward women. Therefore, the age of both partners, as well as the age at first intercourse should be taken into consideration.

Based on the association between condom use and relationship length discussed above, it is interesting that we found a significant main effect of length of sexual relationships on planned mutual HIV/STI testing. Although women in shorter sexual relationships (e.g., 1 year or less), were no more likely to report that they and their

partner had undergone STI/HIV testing within the past 3 months, they were more likely to report that they were planning mutual HIV/STI testing with their male partner over the next 3 months when compared to women in longer sexual relationships (e.g., greater than 1 year). While condom use consistency may become established quite early (e.g., within the first 21 days of a relationship), mutual STI/HIV testing may be more likely to occur sometime within the first year. Thus, there may be a greater window of opportunity for the introduction of STI/HIV testing within relationships when compared to condom use consistency. This would be an important area to examine in future research.

Limitations

Small Sample Size

A number of limitations should be kept in mind when interpreting these findings. Although a year long attempt was made to recruit more participants for this study, the recruitment process was a long and laborious process that was only partially successful. Female university students attending a busy student health clinic were not as eager to participate in research on "women's sexual health" as we anticipated. Moreover, since participants were recruited through posters and advertisements, many did not meet the basic selection criteria, did not provide appropriate consent to participate, or did not follow through with completion of the study. The current research would have had greater statistical power if the sample size had been larger. Nevertheless, the fact that significant differences were found for some analyses (despite the small sample sizes), indicates that these differences would likely remain given a larger sample. Moreover,

regardless of our numerous efforts to recruit more than one university clinic, as well as to recruit male physicians, all physicians who participated in the study were female and were from the same clinic. Thus, the generalizability of these findings may be limited.

Well-Established Relationships

While we attempted to recruit women who were receiving a prescription for oral contraception for the first time and/or were just about to enter into a new relationship, the majority of the sample was made up of women who had been involved in their current heterosexual (and "monogamous") relationship for more than a year, and were renewing their prescription for oral contraception rather than receiving a new one. Since oral contraception tends to relieve serially monogamous couples of their only immediate concern about sexual activity (e.g., conception), these couples tend to stop using condoms without being tested for STIs or HIV. Based on a review of the literature, we also know that the longer a couple has been together, the more likely they are to view their relationship as safe – especially when they believe that their relationship is monogamous. Thus, it is likely that the women who participated in the study had already made a decision about whether their relationship was safe and behaved according to these views (e.g., stopped using condoms early in the relationship or when they began oral contraception). Moreover, it may have been easier for these women to dismiss the information provided by the study rather than contemplate the possibility that their current relationship was unsafe. It is also likely that it would have been very difficult to incorporate major changes in sexual behaviour into an already well-established relationship - because of the implication of unfaithfulness and lack of trust, and due to the

entrenched and incompatible habits that already existed. It is likely then, that the intervention would have had a greater impact if the participants included women that had just begun dating or were just about to start oral contraception for the first time.

Stage of Change

According to the Transtheoretical Stages of Change model of health behavior (Prochaska & DiClemente, 1983), an individual's current stage of readiness for change (e.g., Pre-Contemplation, Contemplation, Preparation, Action, or Maintenance) influences the effectiveness of various intervention strategies. For example, while those in the Pre-Contemplation stage of change will do very little to shift away from current behaviour (e.g., risky sex), those in the Contemplation stage display an increased openness to information relevant to behaviour change (e.g., STI/HIV facts and helpful resources) and seek out support for active change (Action stage). Moreover, according to this model of change, those in the Contemplation stage are the most likely to respond to feedback and education regarding their current sexual behaviour, while those in the Action stage are most likely to apply behaviourally based strategies (Prochaska & DiClemente, 1983). Therefore, women who were in the Contemplation, Preparation, or Action stages of change would be the most likely to benefit from the physician initiated STI/HIV prevention counselling implemented in this study. However, due to the nature of their monogamous relationships, it is likely that most of the participants were in a Precontemplation stage and perceived few benefits of change in their established and committed relationships.

Measure of Intimacy

Previous research has found that the levels of intimacy, trust and commitment in a sexual relationship tend to be barriers to safer-sex behaviours. Although the current study attempted to bypass the relationship threat often associated with the introduction (or reintroduction) of condoms by asking physicians to prescribe safer-sex behaviours, measures of relationship closeness were not included. It is likely that the inclusion of relationship factors would help to shed more light on why some couples became safer or completely safe over time while others became less safe or stayed the same. Moreover, it would be quite interesting to study the relationship dynamics of couples who reported engaging in a number of safer-sex behaviours - such as "Super Safe" couples or those engaging in completely consistent use of condoms with oral contraception.

Future Research

Safer-Sex Information Materials

The participants in this study provided useful feedback about the intervention materials and questionnaires. Several participants requested additional information on the advantages and disadvantages of various contraceptive methods, alternatives for individuals allergic to latex, as well as the symptoms of sexually transmitted infections. Moreover, the women in this study were generally interested in learning new ways to encourage their male partners to become more involved in, and responsible for safer-sex behaviours. Specifically, women wanted to learn more effective ways to discuss safer-sex with their partners, ideas on how to dispel myths and excuses regarding STI/HIV testing and consistent condom use (e.g., if either of us are infected, we'd both be exposed by

now, and if you've tested negative for STI/HIV, then why do I need to be tested?), and how to effectively encourage men to initiate and maintain these behaviours. Therefore, future STI/HIV prevention programs would likely benefit from the inclusion of additional information on contraception, symptoms associated with STIs/HIV, safer-sex scripts designed for use in established relationships, as well as a discussion of common hurdles encountered when introducing or reintroducing safer-sex behaviours into established relationships. These recommendations have also been made by other researchers. Specifically, Bird, Harvey, Beckman and colleagues (2001) found that interventions need to emphasize effective communication and negotiation skills, as well as accurate information about STI/HIV risk so that individuals can more successfully persuade their partners to use condoms. Finally, since some participants commented on the lack of available information in clinic waiting rooms, these materials could be distributed to physicians for preparatory use prior to patients' contraception appointments.

Following Women Across Serially Monogamous Relationships

Past research has found that it is very difficult to introduce (or re-introduce) safer-sex behaviours in established relationships (Fisher et al., 1996; Misovich, Fisher & Fisher, 1997). Similar results were found in the current study as the intervention did not have a significant impact on condom use consistency or STI/HIV testing behaviours among women in established relationships. However, since most studies do not follow individuals across their serially monogamous relationships, it is possible that those receiving safer-sex strategies make very few changes in their current relationship, but engage in safer-sex behaviours at the beginning of their next relationship (and perhaps

even maintain this behaviour). Therefore, not only would it would be interesting to assess the impact of STI/HIV intervention programs across serially monogamous relationships, but it would also be interesting to target individuals who are "in-between" sexual relationships (however, the logistics of this may be difficult). Finally, for couples who are currently involved in a relationship that they perceive as "permanent" (e.g., spouse or common law partner), programs that promote STI/HIV testing during family planning may be effective in increasing the likelihood that both partners will seek out testing.

Conclusions and Implications

The purpose of the current study was to implement and evaluate a brief physician-initiated intervention designed to promote safer-sex during women's routine appointments for the prescription of oral contraception. By asking physicians to prescribe safer-sex behaviours, we attempted to bypass the relationship threat often associated with the introduction (or reintroduction) of condoms and requests for STI/HIV testing within established relationships. While the intervention did not have a significant impact on reported levels of condom use consistency or STI/HIV testing within the 3 months after baseline, women in the intervention group were significantly more likely to report planned condom use consistency over the next 3 months, and were somewhat more likely to report that they were tested for HIV after baseline when compared to women receiving standard contraceptive care. Moreover, women in the intervention group were also somewhat more likely to become "newly safe" at follow- up when compared to the women in the comparison group. Although condom use consistency and length of sexual relationship at baseline were not related to safer-sex behaviours at follow-up, consistent

condom use at baseline was significantly related to condom use at follow-up. Thus, the intervention had the greatest impact on planned condom use, and had some influence on participants' decisions to become safer over time as a result of HIV testing. Moreover, it appears that the best predictor of future condom use consistency within established relationships tends to be a couple's past condom use consistency.

In general, the exploratory analyses revealed that women are more likely to engage in safer-sex behaviours when both they and their male partner are sexually inexperienced at the onset of their relationship, and they perceive the relationship as nonmonogamous. Women who reported completely consistent use of condoms and OCs were also significantly more likely to report that they and their partner were coitally inexperienced at the beginning of their relationship when compared to those who did not consistently use both contraceptive methods. Moreover, consistent condom and OC users were also significantly more likely to report planned and consistent condom use in the future. Thus, sexually inexperienced women who are involved with sexually inexperienced men are more likely to engage in safer-sex behaviours when compared to women who reported that both they and their male partner had previous sexual experience. In addition, we found that when compared to women who are safer by circumstance (Incidentally Safer), those that actively engage in safer-sex behaviours are most likely to report mutual STI/HIV testing with monogamy. Therefore, if a couple is sexually inexperienced, they are more likely to be safer as a result of condom use or relationship circumstances, whereas those that are sexually experienced and safer are more likely to engage in mutual STI/HIV testing within their monogamous relationships. These trends have important implications for interventions, as sexually inexperienced

couples may tend to benefit from interventions recommending continued consistent condom use, while those who are more sexually experienced are less likely to be using condoms and therefore may benefit from recommendations around mutual STI/HIV testing. Future research is needed to test these predictions.

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Appendix A

Baseline and Follow-up Questionnaires

The UWO Women's Survey

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Women's Survey: Initial

Section 1: Background Information

Please provide us with the following background information.

1. Age_____ *(fill in)*

2. Marital status *(check all that apply):*

   ☐ Single
   ☐ Living with partner
   ☐ Engaged
   ☐ Married
   ☐ Common law
   ☐ Divorced
   ☐ Widowed

3. Ethnic background *(check all that apply):*

   ☐ First Nations
   ☐ Asian or Asian Canadian
   ☐ Black or African Canadian
   ☐ Hispanic or Latino
   ☐ White or Caucasian
   ☐ Other *(please specify):* _____

4. Currently enrolled in *(check one):*

   ☐ College degree program
   ☐ Undergraduate degree program
   ☐ Professional degree program
   ☐ Graduate degree program
   ☐ Post graduate degree program
   ☐ Other *(please specify):* _____

5. Area of study and year of study *(fill in):*

   ☐ Area of study _____
   ☐ Year of study _____

Section 2: Relationship Information

We are interested in finding out more about your relationship. Please check (✓) the best response for each question.

1. My partner and I have been dating for:

   ☐ ____months or ____years *(provide a number)*
   ☐ I am not currently dating anyone

2. My partner and I have been having sexual intercourse (vaginal, or anal, or oral) for:

   ☐ Less than a month
   ☐ One to three months
   ☐ Three to six months
   ☐ Six months to one year
   ☐ More than one year
   ☐ We haven't had sexual intercourse
   ☐ I do not have a sexual partner

3. I have *never* had another sexual partner.

   ☐ True
   ☐ False

4. My partner has *never* had another sexual partner.

   ☐ True
   ☐ False
   ☐ Don't know

5. My partner and I are in a monogamous relationship (e.g. we only have sexual intercourse with each other).

   ☐ True
   ☐ False
   ☐ Don't know
   ☐ I do not currently have a sexual partner

The UWO Women's Survey

Andrea K. Foy, Dr. W.A. Fisher, and Dr. D.A. Wolfe
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Section 3: Contraceptive Information

1. Please indicate how often you have used each of the following contraceptive methods during the *past three months*. Circle the best response. Skip to question 3 in this section if you have not been sexually active (i.e. oral, anal, or vaginal sex) during the past three months.

Method of Contraception	Frequency of Use				
A. Oral Contraceptive Pill	Always	Usually	Sometimes	Rarely	Never
B. Contraceptive Patch (Evra)	Always	Usually	Sometimes	Rarely	Never
C. Injection (Depo-Provera)	Always	Usually	Sometimes	Rarely	Never
D. Vaginal Ring (NuvaRing)	Always	Usually	Sometimes	Rarely	Never
E. Male Condoms	Always	Usually	Sometimes	Rarely	Never
F. Female Condoms	Always	Usually	Sometimes	Rarely	Never
G. Contraceptive Sponge	Always	Usually	Sometimes	Rarely	Never
H. Diaphragm	Always	Usually	Sometimes	Rarely	Never
I. Cervical Cap	Always	Usually	Sometimes	Rarely	Never
J. Lea Contraceptive	Always	Usually	Sometimes	Rarely	Never
K. Hormonal IUD (Mirena)	Always	Usually	Sometimes	Rarely	Never
L. IUCD (T shaped copper wire)	Always	Usually	Sometimes	Rarely	Never
M. Withdrawal (pulling out)	Always	Usually	Sometimes	Rarely	Never
N. Rhythm Method/Fertility Awareness	Always	Usually	Sometimes	Rarely	Never
O. Emergency Contraceptive Pill	Always	Usually	Sometimes	Rarely	Never
P. Spermicide (nonoxynol-9)	Always	Usually	Sometimes	Rarely	Never
Q. Other *(specify)*:_____	Always	Usually	Sometimes	Rarely	Never

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2. The following questions ask about your use of condoms for specific sexual behaviors you may have engaged in within the *last three months.* Please check (✓) and circle your answers where appropriate.

   A. In the *last three months* my partner and I have had vaginal intercourse. Please check (✓) one.

   ☐ No
   ☐ Yes, and we used condoms *(circle one):* Always Usually Sometimes Rarely Never

   B. In the *last three months* my partner and I have had anal intercourse. Please check (✓) one

   ☐ No
   ☐ Yes, and we used condoms *(circle one):* Always Usually Sometimes Rarely Never

   C. In the *last three months*, my partner and I have engaged in oral sex. Please check (✓) one.

   ☐ No
   ☐ Yes, and we used condoms *(circle one):* Always Usually Sometimes Rarely Never

3. In the ***next*** *three months*, I am planning to use a hormonal contraceptive (i.e. "The Pill", Depo-Provera, Evra Contraceptive Patch, NuvaRing, or Hormonal IUD). Please check (✓) one.

   ☐ No
   ☐ Yes

4. In the ***next*** *three months*, I am planning to use condoms. Please check (✓) one.

   ☐ No
   ☐ Yes, and plan to use condoms *(circle one):* Always Usually Sometimes Rarely Never

Section 4: Testing Information

1. Please check *all* items that are **TRUE**, and include additional information where requested.

   ☐ I have had a test (swab or urine) to check whether I have been exposed to a sexually transmitted infection (STI). Please specify the following:

   Date of most recent test: _____
   Where tested: _____
   *Test results *(positive or negative)*: _____

   **Note that a positive test result indicates that you have a STI/HIV; a negative test result indicates that you do not have a STI/HIV.*

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☐ My partner has had a test (swab or urine) to check whether he has been exposed to a sexually transmitted infection. Please specify the following:

Date of most recent test: _____
Where tested: _____
*Test results *(positive or negative)*: _____

☐ I have had a blood test to check whether I have been exposed to the virus that causes AIDS (HIV). Please specify the following:

Date of most recent test: _____
Where tested: _____
*Test results *(positive or negative)*: _____

☐ My partner has had a blood test to check whether he has been exposed to the virus that causes AIDS (HIV). Please specify the following:

Date of most recent test: _____
Where tested: _____
*Test results *(positive or negative)*: _____

2. Please check *all* items that are **TRUE**.

☐ Before getting tested for HIV/AIDS, my partner and I waited for at least 3 months after having unprotected sexual intercourse (i.e., sex without a condom).

☐ My partner and I were tested for STIs and HIV on the same day.

☐ My partner and I plan to get tested for STIs and HIV in the next 3 months.

☐ My partner and I were both virgins when we met.

Do you have any comments, questions or concerns about this questionnaire?

Please include them in the space provided below.

_____
_____
_____
_____
_____
_____

Thank you for your participation.

The UWO Women's Survey

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Women's Survey: Final

Section 1: Relationship Information

We are interested in finding out more about your current relationship. Please check (✓) the best response for each question.

1. In terms of my sexual relationship, I am currently *(check one)*:

   ☐ with the same sexual partner I was with the last time I completed this questionnaire.
   ☐ with a new sexual partner.
   ☐ not with a sexual partner.

2. My partner and I have been having sexual intercourse (vaginal, or anal, or oral) for:

   ☐ Less than a month
   ☐ One to three months
   ☐ Three to six months
   ☐ Six months to one year
   ☐ More than one year
   ☐ We haven't had sexual intercourse
   ☐ I don't have a sexual partner

3. I have *never* had another sexual partner.

   ☐ True
   ☐ False

4. My partner has *never* had another sexual partner.

   ☐ True
   ☐ False
   ☐ Don't know

5. My partner and I are in a monogamous relationship (e.g. we only have sexual intercourse with each other).

   ☐ True
   ☐ False
   ☐ Don't know
   ☐ I do not currently have a sexual partner

Section 2: Contraceptive Information

1. Please indicate how often you have used each of the following contraceptive methods during the *past three months*. Circle the best response. Skip to question 3 in this section if you have not been sexually active (i.e. oral, anal, or vaginal sex) during the past three months.

Method of Contraception	Frequency of Use				
A. Oral Contraceptive Pill	Always	Usually	Sometimes	Rarely	Never
B. Contraceptive Patch (Evra)	Always	Usually	Sometimes	Rarely	Never

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Method of Contraception	Frequency of Use				
C. Injection (Depo-Provera)	Always	Usually	Sometimes	Rarely	Never
D. Vaginal Ring (NuvaRing)	Always	Usually	Sometimes	Rarely	Never
E. Male Condoms	Always	Usually	Sometimes	Rarely	Never
F. Female Condoms	Always	Usually	Sometimes	Rarely	Never
G. Contraceptive Sponge	Always	Usually	Sometimes	Rarely	Never
H. Diaphragm	Always	Usually	Sometimes	Rarely	Never
I. Cervical Cap	Always	Usually	Sometimes	Rarely	Never
J. Lea Contraceptive	Always	Usually	Sometimes	Rarely	Never
K. Hormonal IUD (Mirena)	Always	Usually	Sometimes	Rarely	Never
L. IUCD (T shaped copper wire)	Always	Usually	Sometimes	Rarely	Never
M. Withdrawal (pulling out)	Always	Usually	Sometimes	Rarely	Never
N. Rhythm Method/Fertility Awareness	Always	Usually	Sometimes	Rarely	Never
O. Emergency Contraceptive Pill	Always	Usually	Sometimes	Rarely	Never
P. Spermicide (nonoxynol-9)	Always	Usually	Sometimes	Rarely	Never
Q. Other *(specify)*:_____	Always	Usually	Sometimes	Rarely	Never

2. The following questions ask about your use of condoms for specific sexual behaviors you may have engaged in within the *last three months.* Please check (✓) and circle your answers where appropriate.

   A. In the *last three months* my partner and I have had vaginal intercourse. Please check (✓) one.

   ☐ No
   ☐ Yes, and we used condoms *(circle one):* Always Usually Sometimes Rarely Never

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B. In the *last three months* my partner and I have had anal intercourse. Please check (✓) one.

☐ No
☐ Yes, and we used condoms *(circle one):* Always Usually Sometimes Rarely Never

C. In the *last three months*, my partner and I have engaged in oral sex. Please check (✓) one.

☐ No
☐ Yes, and we used condoms *(circle one):* Always Usually Sometimes Rarely Never

3. In the ***next*** *three months*, I am planning to use a hormonal contraceptive (i.e. "The Pill", Depo-Provera, Evra Contraceptive Patch, NuvaRing, or Hormonal IUD). Please check (✓) one.

☐ No
☐ Yes

4. In the ***next*** *three months*, I am planning to use condoms. Please check (✓) one.

☐ No
☐ Yes, and plan to use condoms *(circle one):* Always Usually Sometimes Rarely Never

Section 3: Testing Information

1. Please check *all* items that are **TRUE**, and include additional information where requested.

☐ I have had a test (swab or urine) to check whether I have been exposed to a sexually transmitted infection (STI). Please specify the following:

Date of most recent test: _____
Where tested: _____
*Test results *(positive or negative)*: _____

**Note that a positive test result indicates that you have a STI/HIV; a negative test result indicates that you do not have a STI/HIV.*

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☐ My partner has had a test (swab or urine) to check whether he has been exposed to a sexually transmitted infection. Please specify the following:

Date of most recent test: _____
Where tested: _____
*Test results *(positive or negative)*: _____

☐ I have had a blood test to check whether I have been exposed to the virus that causes AIDS (HIV). Please specify the following:

Date of most recent test: _____
Where tested: _____
*Test results *(positive or negative)*: _____

☐ My partner has had a blood test to check whether he has been exposed to the virus that causes AIDS (HIV). Please specify the following:

Date of most recent test: _____
Where tested: _____
*Test results *(positive or negative)*: _____

2. Please check *all* items that are **TRUE**.

☐ Before getting tested for HIV/AIDS, my partner and I waited for at least 3 months after having unprotected sexual intercourse (i.e., sex without a condom).

☐ My partner and I were tested for STIs and HIV on the same day.

☐ My partner and I plan to get tested for STIs and HIV in the next 3 months.

☐ My partner and I were both virgins when we met.

Section 4: Clinic Appointment

1. Did you receive an information package about safer sex from your doctor after your initial appointment (i.e. 3-4 months ago)? This package included STI/HIV facts, safer sex strategies, how to use a condom, condom tips, information on testing, and community resources.

☐ No (please skip to question 7)
☐ Yes (Please continue with question 2)

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2. Did you look at any of the information in this package?

   ☐ No
   ☐ Yes

3. What part(s) of the information package did you find most interesting or helpful? Please specify.

   _____
   _____

4. What part(s) of the information package did you find least interesting or helpful? Please specify.

   _____
   _____

5. How would you improve the information that you received? Please be specific.

   _____
   _____

6. Did you share any of this information with your partner? If yes, please specify what you shared.

   _____
   _____

7. Is there anything that you would have changed about your appointment with your doctor (i.e. topics discussed, questions asked, information given, etc)? Please comment.

   _____
   _____
   _____
   _____
   _____

Do you have any comments, questions or concerns about this questionnaire?

Please include them in the space provided below.

_____
_____
_____
_____
_____
_____
_____
_____

Thank you for your participation.

Appendix B

Telephone Survey

The UWO Women's Survey

Andrea K. Foy, Dr. W.A. Fisher, and Dr. D.A. Wolfe
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Follow-up Phone Survey

2 weeks: Administered by the researcher to the patient

Participant's name: _____
Participant's ID: _____
Phone Number: _____

Hi, my name is _____. I believe that you filled out one of our surveys while you were at Student Health Services a few days ago.

I have a few questions that I wanted to ask you. It should only take about 5 minutes. Is this a good time?

- ☐ *When would be a better time to call you back?* _____
- ☐ *Is this the best number to reach you at?* _____

Just to remind you, everything that we discuss is kept completely confidential. Moreover, your participation in this study is entirely voluntary. You may refuse to answer any or all of the questions. However, the more information you can give us, the more helpful it will be.

1. Did you have any trouble completing the questionnaire before your appointment?
   - ☐ No.
   - ☐ Yes: _____

2. Do you have any comments or questions about anything on the questionnaire?
   - ☐ No.
   - ☐ Yes: _____

3. Did your physician give you any specific advice or suggestions during your appointment?

   _____
   _____
   _____
   _____

   ☐ **No.**

   ☐ **Yes.** What did you receive? Please be as specific as possible.

   - ☐ Prescription for couples (what doctors recommend, negotiated safety)
   - ☐ Available resources
   - ☐ How to put on a condom
   - ☐ Condom tips (making condom use more enjoyable)
   - ☐ Safer sex scripts (how to ask partner for safer sex)
   - ☐ Testing navigator (information on testing and resources)
   - ☐ Fact sheet (HIV/STD stats + 3 steps to safer sex)

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4. Did your doctor give you a prescription for the Pill?
   - ☐ No. _____
   - ☐ Yes. How many months were prescribed? _____ *(months).*

5. Did your physician ask you to make any decisions around your current use of contraceptives, or encourage you to seek out testing?
   - ☐ No
   - ☐ Yes. Do you remember what was suggested?
     - ☐ Completely consistent condom use, or condoms and the Pill
     - ☐ Mutual HIV and STI testing
     - ☐ Stop condom use *only if:* 1) negative HIV and STI test results for both partners and, 2) currently in a monogamous relationship
     - ☐ Don't remember.
     - ☐ Other: _____

6. Have you made a follow-up appointment with your physician or the clinic?
   - ☐ No. Do you plan to? _____
   - ☐ Yes. When? _____

7. At this point, what are you doing about birth control?
   - ☐ Oral contraceptives only
   - ☐ Oral contraceptives and condoms
   - ☐ Condoms only
   - ☐ Other *(specify)*: _____

8. What did you find most interesting or helpful about your appointment?
   _____
   _____

9. What did you find least interesting or helpful about your appointment?
   _____
   _____

10. Did you share any of this information with your partner?
    - o No
    - o Yes. What was his reaction?

    _____
    _____

11. How would you improve the information that you received? Anything you would add/include?
    _____
    _____

The UWO Women's Survey

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Thank you so much for your time. As part of this study you'll be contacted again in about three months. At that time we'll ask you to fill out a very brief questionnaire. It should only take you 5-10 minutes to complete.

Before I let you go, I just want to confirm your contact information:

- ☐ Best number to reach you at: _____
- ☐ Cell phone: _____
- ☐ Mailing Address: _____
- ☐ Email address: _____

Will this information still be valid in 3 months?

Thanks again. Have a nice day.

Researcher's Comments

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

End of Survey

Appendix C

Intervention Materials

This section includes the following intervention materials: Physician Form, Follow-up Appointment Slip, Prescription Pad Counselling Guide (initial and follow-up appointment), and Safer-Sex Prescription.

The UWO Women's Survey

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Physician Form

Please complete this form and give it to your physician

during your appointment today.

My name is _____ and I am participating in the UWO-Women's Survey.
(please print your name)

Signature: _____

Date: _____

Hormonal Contraception
Prescription Pad Counselling Guide

Follow-Up Appointment Slip

Please call the clinic in 2 months to book a follow-up appointment with me.

Your follow-up appointment should be approximately 3 months from today (i.e. as close to _____ as possible).

Thank you,

_____ _____
Physician Signature Date

To the patient: Remember, if appropriate, this would be a great time for you and your partner to get tested.

Hormonal Contraception
Prescription Pad Counselling Guide

Physician Administered

Initial → There are a couple of questions I ask my new contraception patients:

1. Are you currently sexually active or are you planning on becoming sexually active?
2. What are you doing about preventing STIs?
3. Have you or your partner ever had another sexual partner?

IF YES - We strongly recommend that you make one of these safer sex choices:

☐ Always use a condom, or condom and *hormonal contraception as your method of birth control and safer sex at the same time - OR -

☐ Always use a condom for 3 months after your last unprotected sexual contact, then come in with your partner for STI and HIV testing. If your tests are negative, you can quit using condoms as long as you remain monogamous and take appropriate birth control measures.

Do either of these options sound like a good choice for your relationship?

**Note: "hormonal contraceptives" include the Pill, Depo-Provera, Evra Contraceptive Patch, NuvaRing, or Hormonal IUDs.*

---

4. I will give you a few free condoms to get you started.
5. I'd like you to make a follow up appointment in 2 ½ months so that we can see how _____ (hormonal contraception) is working for you, and to extend your prescription. How does that sound?
6. If you would like to stop using condoms, both you AND your partner can come in for STI and HIV testing.

Hormonal Contraception
Prescription Pad Counselling Guide

Physician Follow-Up → There are a couple of questions I ask my contraception patients:

1. How is _____ *(*method of hormonal contraception)* working for you?
2. Are you currently sexually active?
3. What are you doing about preventing STIs?

   ☐ Consistent condom use

   ☐ Consistent condom use + mutual testing + monogamy → intend to stop condom use *(Remember: testing only works if you are monogamous. In all other situations, use condoms)*

   ☐ Other_____*(reminder: *hormonal contraceptives offer no STI protection)*

If couple decided on mutual testing:

4. Have you and your partner, if appropriate, been tested for STIs including HIV?
5. Did you wait at least *12 weeks* after your last unprotected sexual contact before getting tests done?
6. Have you and your partner, if appropriate, received your test results?
7. Condoms should be used consistently until you **both** receive negative STI and HIV test results, if appropriate.
8. Testing only works if you are monogamous. In all other situations use condoms.

**Note: "if appropriate" refers to whether both partners need testing (for example, when one or both partners are virgins, testing may not be appropriate)*

---

7. I'll give you a 12 month prescription for _____ (*hormonal contraceptive*). Just before your prescription runs out, you'll need to come in for another Pap smear.
8. Is there anything else you wanted to talk about today?

Prescribing Prevention

York Lanes Health Centre

Date: _____

Name: _____

Prescription:

☐ Always use a condom as your method of birth control and safer sex at the same time.

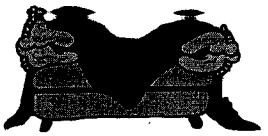
☐ Always use a condom for 3 months - then come in with your partner for STI/HIV testing. If your tests are negative you can talk about quitting condom use as long as you remain monogamous and take appropriate birth control measures.

_____

Physician, York Lanes Health Centre
York Lanes, York University

Appendix D

Safer-Sex Information Package



What Canadian Couples Need To Know About STIs

The Facts

- Almost 50,000 Canadians have HIV, and about 5,000 new infections occur per year. Half of all new infections occur in Canadians under 25, with approximately 45% of AIDS cases in 15-29 year olds occurring among women. HIV is spread mainly through unprotected sexual intercourse when people don't know they are infected. It may take more than 10 years for someone with HIV to develop noticeable symptoms.

- Many sexually transmitted infections (STIs) do not produce any symptoms, especially in women. There may be no outward symptoms at all. If left untreated the consequences can be severe – including infertility, pelvic inflammatory disease (PID), and cervical cancer, or even death. When you don't know you're infected you're at risk of infecting others – even those you love and trust.

- Practicing safer sex does not just mean being in a monogamous relationship. You or your partner (or previous partners) may have been infected in the past and not even realize it. If you or your partner has *ever* had another partner, the only way to really know that you and your partner are safe is to get tested for STI's.

Don't Stop Enjoying Sex .... Follow These Steps!

1. **Use Condoms.**
   When latex condoms are used correctly every single time you have sex, they are highly effective in providing protection against HIV, and can reduce the risk of other sexually transmitted infections (STIs).

2. **Get Tested.**
   If you or your partner has ever had another partner, the only way to guarantee that you and your partner do not have a STI (including HIV/AIDS) is through mutual testing (i.e. you both get tested for STIs and HIV on the same day). Most people do not experience symptoms of infection. Getting a Pap smear does not necessarily mean you have been tested for STIs and HIV. Donating blood does not count as testing.

3. **Negotiated Safety.**
   Negotiated safety occurs when couples get tested AND remain monogamous (i.e. only have sex with each other). When monogamous couples receive test results (from mutual testing) indicating they are both STI and HIV/AIDS free, they have several safer sex options:

   1) Correct and consistent condom use (i.e. 100% of the time).

   2) Combined condom use and non barrier contraceptives (i.e. "the Pill", IUD, etc).

   3) Discontinued condom use with appropriate birth control measures (i.e. the "Pill", IUD, diaphragm and spermicides, etc). This is a safer sex option only when couples have been tested and have agreed to remain monogamous ("other" partners may introduce STIs into the relationship).

Condom Specifics

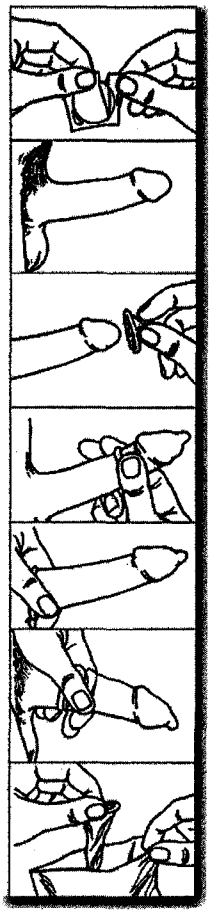
Getting It On..... and Off

Male condoms usually come rolled up in a sealed packet, and most are pre-lubricated on the outside (the preferred choice). If the condom is brittle, stiff or sticky, discard it and use another. Check the expiration date. Don't use outdated condoms.

You need to use a new condom every time you have sexual intercourse. Never use the same condom twice. If you go from anal intercourse to vaginal intercourse, you should use a new condom. Do not use a male and female condom at the same time, or put on two male condoms. This will increase the likelihood of the condom breaking.

---

1. Use a new condom for each act of intercourse.
2. Put on the condom as soon as erection occurs and before any sexual contact (vaginal, anal, or oral).
3. If you're not circumcised, pull back your foreskin. This lets your foreskin move without breaking the condom.
4. Hold the tip of the condom (to pinch the air out of the tip) and unroll it onto the erect penis, leaving space at the tip of the condom, yet ensuring that no air is trapped in the condom's tip.
5. Unroll the condom all the way to the base of the penis.
6. Adequate lubrication is important, but use only water-based lubricants on latex condoms (KY Jelly, Liquid Silk, ForPlay, Astroglide, etc.). Oil based lubricants such as petroleum jelly (Vaseline), cold cream, hand lotion, or baby oil can weaken the latex condom and are not recommended. (Oil-based lubricants can be used only with condoms made of polyurethane).
7. Withdraw from the partner immediately after ejaculation, holding the condom firmly at the base of the penis to keep it from slipping off. Be careful not to spill semen onto your partner when you throw the condom away. Do not flush condoms down the toilet; they will clog the plumbing.
8. The main reason that condoms sometimes fail to prevent HIV, STI infections or pregnancy is incorrect or inconsistent use, not the failure of the condom itself. Using oil-based lubricants (Vaseline, hand cream, baby oil, cooking oils, etc) can weaken the latex, causing the condom to break. Condoms can also be weakened by exposure to heat or sunlight or by age, or they can be torn accidentally by teeth, fingernails, or jewelry (including body piercing).



Note: Condoms are most valuable in preventing sexual transmission of chlamydia trachomatis, gonorrhea, NGU, shyphilis, HIV, bacterial vaginosis, candidiasis, and trichomoniasis. Condoms are less effective against the spread of herpes, genital warts, and have no value in combating pubic lice and scabies. A medical exam and STI testing is the best way to remain safe.

Condom Tips

1. **Increase Sensation.** Put a drop or two of lubricant or saliva inside the tip of the condom to increase his sensation during sex. Use lubricated condoms.

2. **Partner Participation.** The person wearing the condom doesn't always have to be the one putting it on – it can be something for partners to share. Women – put condoms on your partner using your mouth. Hold the condom tip between your lips and then smooth it along the length of his shaft.

3. **Don't Stop Touching.** Don't stop touching each other to put the condom on - or you may loose the sexual momentum. Touch her breasts while she puts the condom on, or stroke his buttocks while he puts the condom on himself. Sensual touch will keep you aroused, and may even increase your arousal levels.

4. **Use Them Suggestively.** Slip one under the sheets on your partner's side before he or she gets into bed. Get creative with where and when you leave them.

5. **Experiment – Color, Flavor and Texture.** Go shopping for colored, shaped, flavored, and textured condoms that you can have fun experimenting with (always choose a brand whose packaging says it will prevent disease).

6. **Oral Sex.** Use unlubricated condoms for oral sex. Most lubricants taste awful.

7. **Keep Condoms Handy.** Keep condoms handy at all times. If things start getting steamy – you'll be ready.

8. **User Friendly.** With little practice, condoms are easy to use. They don't have the medical side effects that other methods of birth control may have and they are widely available (convenience stores, pharmacies) without a prescription. Unlike many other contraceptives, condoms are only needed when you are having sex. Moreover, condoms make sex less messy.

9. **Buying Condoms.** When you buy condoms, don't get embarrassed. If anything, be proud. It shows that you are responsible and confident and when the time comes it will all be worthwhile.

10. **Double Protection.** Condoms are one of the most reliable methods of birth control, and they are the only contraceptive that also helps to prevent the spread of STIs (including HIV) when they are used properly and consistently.

11. **3 Month Rule.** In order for HIV testing to be accurate you must wait at least 3 months (12 weeks) since your last unprotected intercourse (e.g. genital contact/sex without a condom).

12. **Morning After Pill.** Get an advance prescription for emergency contraception – the "Morning After Pill" from your doctor, just in case. It must be taken within 120 hours after unprotected intercourse.

13. **Storage.** Store condoms away from too much heat, cold, direct light or friction. Condoms can deteriorate if not stored properly. So, it is best not to use a condom that has been stored in your back pocket, your wallet, or the glove compartment of your car. Don't use condoms that are brittle, stiff or sticky. Discard them and use another one.

14. **Prevent Condom Tearing.** Don't open a condom package with your teeth. Be careful that your fingernails or jewelry don't tear the condom. Body jewelry in or around your penis or vagina might also tear a condom.

Have You Ever Used These Condom Excuses?

Here's Another Perspective

1. **Don't you trust me?** Trust isn't the point – people can have infections without realizing it. Most sexually transmitted infections (STIs) do not produce any noticeable symptoms.

2. **I don't stay hard and it ruins the moment when I put on a condom.** Think of creative ways to incorporate condoms. Women, help your partner put the condom on – be creative. If both partners continue to touch each other, the sexual momentum is maintained (if not heightened!).

3. **I'm afraid to talk to my partner about using condoms. My partner will think I don't trust him/her.** If you can't ask your partner, you probably don't trust him/her. Trust doesn't protect you from STIs.

4. **It's up to my partner – it's his/her decision.** It's your health. It needs to be your decision too.

5. **It just isn't as sensitive – I can't feel a thing when I wear a condom.** Using a condom may help him to last longer - leading to more intense sensations for both partners. Moreover, one or both partners often feel more relaxed when they use a condom (increased protection from pregnancy and STIs). If couples are more relaxed, sex will be more pleasurable.

6. **I'm on the pill so we don't need to use a condom.** Using a condom will help to protect you from STIs you may not realize you have. The pill provides no protection from STIs. If you haven't both been tested for STIs (including HIV), you are still at risk of contracting or transmitting an STI.

7. **I guess you don't really love me.** If you are in love, you'll do whatever you can to protect yourself and your partner. Don't risk your futures (your health and fertility) to prove it.

8. **I will pull out on time.** Women can get pregnant and contract STIs from pre-ejaculate. If he doesn't wear a condom, he's putting both of you at risk.

9. **Come on, just this once.** Once is all it takes. Conception can occur only a few days each month, but a STI can be contracted any time there is sexual interaction with an infected person (when barrier contraceptives are not used, or are not used properly).

Condoms are your best defense against sexually transmitted infections, including HIV/AIDS.

What are YOU waiting for?

But What Do I Say?

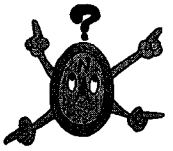
Safer Sex Scripts

Some people have all of the skills for good communication, but still find it difficult to find the words to express how they are feeling. Here are a few ways that you can ask your partner to engage in safer sex behaviors.

☑ If we want to have sex, we have to use a condom.

☑ If we want to stop using condoms, we need to get tested first.

☑ I'd like to have sex, go put on a condom.



The Testing Navigator

So - you're interested in getting tested?
We've packed this brochure full of information to guide you through it.

Who Should Consider Testing?

You should consider getting tested for STIs/HIV if:

- ✓ You have ever had unprotected vaginal and/or anal intercourse (did not use a condom).
- ✓ You have had more than one sexual partner.
- ✓ Your sexual partner has had more than one sexual partner.
- ✓ You have symptoms suspicious of a sexually transmitted infection (STI). Males may experience burning on urination, or discharge from the urethra. Females may experience vaginal discharge, odor or itch. Either sex may notice a rash, sores, or bumps around their genital or anal areas.
- ✓ Your sexual partner has been diagnosed with a STI or they have symptoms that may indicate a STI.
- ✓ You feel that you are at risk for an infection through sexual contact or injection drug use.
- ✓ You are beginning a new relationship and want to have a check-up to be sure that you and your new partner are both healthy.
- ✓ You are in a monogamous relationship and would like you and your partner to get tested before you stop using condoms.

Note: Most sexually transmitted infections can occur without any symptoms. You may not notice any changes with your body, but you may have an infection that can be passed on to your sexual partner(s). The only way to be certain is to be tested.

Why Should I Consider Testing?

1. Testing is the only way to know for certain whether or not you have contracted any sexually transmitted infections (STI's).
2. Testing will relieve any feelings of uncertainty you may have.
3. It is an opportunity to receive accurate information and obtain support.
4. If you test positive for a STI (including HIV), you can begin treatment now. The sooner you receive treatment, the better the outcome.
5. You can reduce the possibility of more people being infected.

Anonymous vs. Confidential Testing

Anonymous Testing. No identifiable information is taken from you (e.g. no name, no health card). A number system or code identifies you. Your test results are not reported. You are the only person who can identify your test result. There are several clinics in Toronto that provide anonymous HIV testing. Refer to the Resource List for more information.

Confidential Testing. For confidential testing, you are required to give your name and show your health card (i.e., at a doctor's office). The results of your test are reported in your medical file. Confidential testing sites will either have nominal or non-nominal testing.

Nominal vs Non-nominal Testing. If you test positive for HIV or another reportable STI (Chlamydia, gonorrhea, shyphilis, or chancroid), your test results are given to the Ontario Ministry of Health. With *nominal* testing your name is given to the health unit staff so that they can do the follow up. However, with n*on-nominal* testing your name is NOT given (i.e. "Someone in our clinic tested positive for....."). Your physician or the clinic is responsible for post-test counseling and follow-up. Refer to the Resource List for more information.

What Is The Testing Procedure?

Physician Consultation. The doctor will discuss your specific concerns with you and ask you a few questions about any symptoms you are experiencing, as well as your risk for STIs. This involves personal questions about your sexual history, sexual partner(s), and practices including condom and drug use. These questions are necessary in order to determine which tests are appropriate. Depending on your concerns, your tests may include a genital exam, taking swabs, collecting urine, and a blood test.

Genital Exam. Some STIs are diagnosed by examination only. These include: yeast balanitis (males), genital warts, molluscum contagiosum, pubic lice, scabies, and non-STI rashes and skin conditions affecting the genitals.

For Women. The examination is similar to a Pap smear (and can be incorporated into your annual physical). The physician will take swabs for Chlamydia and gonorrhea from the cervix, and swabs from the vaginal walls for yeast, bacterial vaginosis, and trichomoniasis. A pap test may be included.

For Men. The examination for men is simpler. A gonorrhea test is done by swabbing the urethra. This test is uncomfortable, but lasts only a few seconds. Next, a urine sample for Chlamydia is collected. It is important that men do not urinate for 2 hours prior to a STI exam.

Blood Tests. Infections such as HIV, syphilis, and hepatitis are tested using a blood sample. A valid HIV test cannot be done before *12 weeks* after suspected exposure to the HIV virus (it takes 12 weeks for the HIV antibodies to develop). If you get tested prior to 12 weeks, you will need to get a repeat test to ensure the test's accuracy.

When Can I Get My Test Results?

Some results may be ready before you leave (i.e., results from a genital exam), others will be available in about a week. In many cases, test results are available over the phone. However, HIV results must be given in person.

What If I Need Treatment?

If the examination or tests indicate an infection, treatment may be started on the same day. Treatments for reportable STIs (Chlamydia, gonorrhea, syphilis) are provided free of charge, as is treatment for genital warts. Over-the counter medications may be suggested for some infections, and prescriptions may be available for initial herpes outbreaks. The sooner you get treatment, the better the outcome. Treatment may be as simple as a single dose of antibiotics.

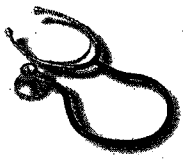
What Are You Waiting For?

With many sexually transmitted bacterial infections (like Chlamydia), you are infectious from the moment you contract it (this means you can also pass it along to partners). The good news is that you can be tested for these infections immediately after you have been exposed. Bacterial infections are also very easy to treat. They are generally treated with antibiotics – ranging from a single dose, to treatment for seven days. Many of these STIs do not produce symptoms – and if they are left untreated, they can have severe consequences - including cervicitis, endometriosis, ectopic pregnancy, infertility, pelvic inflammatory disease, and even death. Bacterial STIs include: Chlamydia, gonorrhea, nongonococcal urethritis (NGU), syphilis, and chancroid. It's easy to get tested and the treatment is simple and effective. What are *you* waiting for?

Resource List

There are several resources that are available to you in the Toronto area and online. Here's a list of the resources we think may be most helpful.

1. **York Lanes Health Centre (416) 736-5525**
   - York Lanes on York University's campus
   - confidential HIV and STI testing
2. **Bay Centre for Birth Control (416) 351-3700**
   - 790 Bay Street, 8th Floor, Toronto
   - free condoms, contraception at reduced cost
   - STI testing & treatment, anonymous HIV testing, emergency contraception, health card not required
3. **"The House" (416) 927-7171**
   - 36B Prince Arthur Avenue, Toronto
   - Youths: 13-25, accept patients without health cards, free condoms and lube, contraception at reduced cost, STI testing & treatment, anonymous HIV testing, birth control, pregnancy tests
   - Web: www.ppt.on.ca/thehouse.html
4. **Hassle Free Clinic (416) 922-0566**
   - 66 Gerard Street East, 2nd Floor
   - separate clinic for women, health card not required, STI testing & treatment, anonymous HIV testing, contraception
   - Web: www.hasslefreeclinic.org
5. **The AIDS Committee of Toronto (416) 340-2437**
   - Support services for people living with or affected by HIV/AIDS
   - E-mail: ask@actoronto.org
   - Web: www.actoronto.org
6. **AIDS & Sexual Health InfoLine 1-800-668-7544**
   - province-wide, free, and anonymous service
   - counselors speak 17 languages
7. **Helpful Website: www.sexualityandu.ca**



Prescription for Couples

What Do Doctors Recommend?

If you or your partner has *ever* had another sexual partner, we strongly recommend that you make one of these safer sex choices:

1. Always use condoms, or condoms and pills, as your method of birth control and safer sex at the same time.

2. Always use a condom for three months – then come in with your partner for HIV and STI testing. If your tests are negative you can discuss stopping condom use as long as you remain monogamous and take appropriate birth control measures.

If you decided to go with option 2, we strongly recommend that you discuss mutual HIV/STI testing and mutual monogamy, and agree on it with your partner.

What is "Negotiated Safety"?

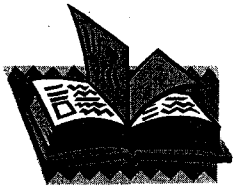
Once couples have received negative test results for HIV and other STIs (during mutual testing), there are a few important choices for you to make. We strongly encourage you to consider the following safer sex options:

1. Continue to use condoms during sexual intercourse.

2. Combine condoms with other non barrier contraceptives (i.e. "the Pill", IUD, diaphragm, etc).

3. Discontinue condom use and use only non barrier contraceptives.

If you have chosen option number 3, you must be in a completely monogamous relationship. Any "other" partners could introduce a STI or HIV into your relationship. We strongly recommend that you discuss monogamy with your partner before choosing this option.



Available Resources

There are several resources that are available to you in the Toronto area and online. Here's a list of resources we think are most helpful:

8. York Lanes Health Centre (416) 736-5525
- Located in York Lanes on York University's campus
- confidential HIV and STI testing

9. Bay Centre for Birth Control (416) 351-3700
- 790 Bay Street, 8th Floor, Toronto
- free condoms, contraception at reduced cost
- STI testing & treatment, anonymous HIV testing, emergency contraception (i.e. "Morning After Pill"), health card not required

10. "The House" Community Health Centre (416) 927-7171
- 36B Prince Arthur Avenue (near St. George subway station)
- Youths: 13-25, accept patients without health cards
- free condoms and lube, contraception at reduced cost, STI testing & treatment, anonymous HIV testing, birth control, pregnancy tests
- Web: www.ppt.on.ca/thehouse.html

11. Hassle Free Clinic (416) 922-0566
- 66 Gerard Street East (at Church St.), 2nd Floor
- separate clinic for women, accept patients without health cards
- STI testing & treatment, anonymous HIV testing, contraception
- Web: www.hasslefreeclinic.org

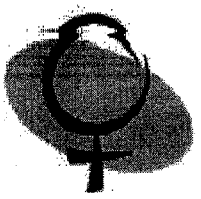
12. The AIDS Committee of Toronto (416) 340-2437
- Support services for people living with or affected by HIV/AIDS
- Counseling, support and discussion groups, practical services, employment action, education and outreach programs and more
- E-mail: ask@actoronto.org
- Web: www.actoronto.org

13. AIDS & Sexual Health InfoLine 1-800-668-7544
- A province-wide, free, and anonymous service
- Counselors speak 17 languages

14. **Helpful Website**: www.sexualityandu.ca

Appendix E

Study Advertisement and Study Flyer



Waiting for An Appointment?

Please Consider Participating in a Research Study on Women's Health While You Wait

Female patients seeing female physicians (Drs. Freedman, Rosen, or Trambakoulos) are needed.

Pick up a **pink information sheet** on the front desk.

WAITING FOR YOUR APPOINTMENT?

Please consider participating in a research study on women's health while you wait.

We are looking for WOMEN who are:

1. 18-30 years of age
2. Currently involved in a heterosexual relationship
3. Seeing a female physician today (Drs. Freedman, Rosen, or Trambakoulos)
4. Requesting a prescription for a hormone-based contraceptive ("The Pill", Depo-Provera, Evra Contraceptive Patch, NuvaRing, or Hormonal IUD).
5. Not married or engaged to be married
6. Not pregnant or planning a pregnancy

I'm Interested, Tell Me More!

If you meet all six (6) of the criteria listed above and you are interested in learning more about our study on women's sexual health decisions, please pick up a study package from the box on the front counter. You will be asked to fill out a brief questionnaire before your appointment today. Your participation will be completely confidential.

Women's Health Research

We need <u>WOMEN</u> who are:

18-30 years of age
involved in a heterosexual relationship
not married or engaged to be married
not pregnant or planning a pregnancy
AND
requesting a prescription for birth control from a female physician (Drs. Freedman, Rosen, or Trambakoulos) at *York Lanes Health Centre*

Are YOU Interested in Participating?

For more information, email Andrea at:

OR
Pick-up a *pink information sheet*
during your next visit to
York Lanes Health Centre.

Appendix F

Letter of Information and Informed Consent

The UWO Women's Survey

Andrea K. Foy, Dr. W.A. Fisher, and Dr. D.A. Wolfe
Physician Initiated STI Prevention Counseling
Department of Psychology, Social Science Centre
University of Western Ontario, London, Ontario N6A 5C2

Letter of Information

Purpose

In this study we are interested in examining university women's decisions concerning sexual behavior, contraception, and related reproductive health issues such as sexually transmitted infections (STIs) and human immunodeficiency virus (HIV) prevention. It is hoped that information from this study will help improve services for women attending university student health services, and improve our understanding of this important area of health behavior.

Study Procedures

If you agree to participate in this study, you will be asked to complete a brief questionnaire (5-10 minutes) before your appointment with the doctor today. This questionnaire will ask you about your relationship with your partner, your sexual behavior, use of contraceptives, and history of STI/HIV testing. Once you complete the paper and pencil questionnaire, your physician may ask you a few questions about your relationship and provide you with information relevant to your reproductive health. Approximately 2 weeks after your appointment, a research assistant will contact you by phone to gather any feedback you have about your doctor's appointment (5-10 minutes). Finally, at your regular clinic follow-up appointment 3 months or so after your initial appointment, you will be asked to complete a brief questionnaire (5-10 minutes) that is very similar to the first questionnaire you completed. If you do not have a follow-up appointment, the final questionnaire will be mailed to you. On completion of the study each participant will receive $5 for each questionnaire received or telephone feedback completed (for a maximum of $15).

Eligibility

You are eligible to participate in this study if you meet *all six(6)* of the following criteria:

1. You are a female between 18-30 years of age,
2. You are currently involved in a heterosexual relationship
3. You have an appointment today with a female physician (Drs. Freedman, Rosen or Trambakoulos)
4. You are requesting a prescription for a hormone-based contraceptive ("The Pill", Depo-Provera, Evra Contraceptive Patch, NuvaRing, or Hormonal IUD)
5. You are not married or engaged to be married, and
6. You are not pregnant or planning to get pregnant.

Confidentiality

Any information collected through this questionnaire will be kept **strictly confidential**. The information from this questionnaire will be coded using an identification number, and all questionnaires will be stored in a locked filing cabinet. Furthermore, your name will not be released to anyone, and it will not appear in any report, oral presentation, or publication for this study.

The UWO Women's Survey

Andrea K. Foy, Dr. W.A. Fisher, and Dr. D.A. Wolfe
Physician Initiated STI Prevention Counseling
Department of Psychology, Social Science Centre
University of Western Ontario, London, Ontario N6A 5C2

Voluntary Participation

Your participation in this study is entirely voluntary. You may refuse to participate, refuse to answer any questions, or withdraw from the study at any time. There are no known risks associated with participating in this study and your health care will not be affected by your decision to participate or to decline to participate.

Questions or Concerns

If you have any questions or concerns about this study, please contact Andrea Foy at: or you may contact Dr. Fisher or Dr. Wolfe at the contact information listed below. We are happy to answer any questions that you have. If you have questions about the conduct of this study or your rights as a research subject you may contact: The Director of Office of Research Ethics The University of Western Ontario at or .

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London, Ontario N6A 5C2

William A. Fisher, Ph.D.
Research Supervisor
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London, Ontario N6A 5C2

David A. Wolfe, Ph.D
Research Supervisor
RBC Investments Chair in Developmental
Psychopathology and Children's Mental Health
Centre for Addiction and Mental Health
100 Collip Circle, Suite 130
London, Ontario N6G 4X8

Please keep this for your files.

The UWO Women's Survey

Andrea K. Foy, Dr. W.A. Fisher, and Dr. D.A. Wolfe
Physician Initiated STI Prevention Counseling
Department of Psychology, Social Science Centre
University of Western Ontario, London, Ontario N6A 5C2

Informed Consent

By signing below, you are indicating that:

1. you have read the Letter of Information for this study,
2. you meet *all six* of the eligibility criteria
3. you agree to participate in this study,
4. the nature of the study has been explained to you, and
5. all questions have been answered to your satisfaction.

Your name (please print): _____

Signature: _____

Date: _____

Please include the following information so that we can contact you for the last few steps of the study:

Telephone number: _____

Mailing Address: _____

Email address(es) : _____

Summer contact; someone who we can contact who will always know how to reach you:

_____

(Note: we will only identify ourselves as the UWO Research Project)

Once you have completed this consent form, please complete the attached questionnaire. This package will contain a 4-page questionnaire, and a note for you to give to your physician. Once you have completed it, place the questionnaire and your consent form in the envelope, seal it, and place it in the study Deposit Box.

☐ Yes, I am interested in receiving a copy of the study results once they are available. Please send the results by:

- ☐ Email _____
- ☐ Mail _____

Thank you

Appendix G

Cover Letter for Follow-up Questionnaire

The UWO Women's Survey

Andrea K. Foy, Dr. W.A. Fisher, and Dr. D.A. Wolfe
Department of Psychology, Social Science Centre
University of Western Ontario, London, Ontario N6A 5C2

Date

Name here
Address here

Dear XXX,

Thank you for your interest and your participation in the UWO Women's Survey thus far. As part of the study you completed the *Initial Survey* in the waiting room at York Lanes Health Centre, and the *Telephone Survey* several weeks later. The last step of the study is to complete the *Final Survey*. The Final Survey and a pre-addressed postage paid envelope are enclosed with this letter.

Please complete the Final Survey and mail it back to me (Andrea Foy) as soon as possible. Once I have received your Final Survey, you will be sent $5 for each survey received or telephone survey completed (for a maximum of $15). A cheque for this amount will be mailed to you.

As indicated on our consent form, any information collected for the study will be kept strictly confidential. Moreover, your participation in this study is entirely voluntary. You may refuse to answer any or all of the questions. However the more information you can provide, the more helpful it will be.

If you have any questions or concerns about this study, please contact me at

Thanks again for your participation.

Sincerely,

Andrea K. Foy, M.A.
Co-Investigator, UWO Women's Survey
Department of Psychology
University of Western Ontario

E-mail:

Appendix H

Thank You Email and Study Feedback

[Email subject line:] York Lanes Research – Sending you $15

Dear _____,

Thank you for your interest and participation in the UWO Women's Survey! As part of the study you completed 3 surveys - the *Initial Survey* in the waiting room at York Lanes Health Centre, the *Telephone Survey* several weeks later, and the *Final Survey which* was mailed to you at home.

As a token of our appreciation for your time and effort, we are sending you a cheque for $15 ($5 for each questionnaire received or telephone survey completed). This amount will be mailed directly to you from the Finance Office at the University of Western Ontario. It generally takes a few weeks for the cheques to be generated and mailed, so don't worry if takes several weeks for your cheque to arrive.

I have also attached three documents (in Word) to this email: 1) a *Study Feedback* form, 2) a *Safer-Sex Information Package, and 3) a Prescription for Couples*. The *Study Feedback* discusses the purpose of the study in more detail, describes relevant background research, and includes a list of helpful references and resources. The Safer-Sex Information Package and Prescription for Couples include a set of safer-sex strategies recommended by physicians, STI facts, tips on using condoms, information about STI/HIV testing, and a list of helpful community resources. Although the women in our Intervention Group received the *Safer-Sex Information Package* and *Prescription for Couples* from their physician, we wanted to make sure that all of our participants had access to this information once they completed the study.

If you have any questions or concerns about this study, please don't hesitate to contact me at

Thanks again for your participation!! I will send you a summary of the results once the study is finished.

Sincerely,

Andrea Foy

Andrea K. Foy, M.A.
Co-Investigator, UWO Women's Survey
Department of Psychology
University of Western Ontario

E-mail:

Andrea K. Foy, Dr. W.A. Fisher, and Dr. D.A. Wolfe
Department of Psychology, Social Science Centre
University of Western Ontario, London, Ontario N6A 5C2

Study Feedback

Thank you for participating in this study and for returning your questionnaire packages. As a token of our appreciation for your time and effort, we are sending $5 for each questionnaire received or telephone survey completed (for a maximum of $15). This amount will be mailed directly to you from the Finance Office at the University of Western Ontario.

Despite all of the efforts that have been directed to reducing the risk of STI/HIV infection, there is a lack of simple and easy-to-enact STI prevention strategies for those in serious but serially monogamous relationships. Although individuals involved in a series of monogamous relationship are sexually active with only one person at a time, they tend to accumulate a number of sexual partners between the time of their sexual debut and the formation of a single permanent relationship. The research shows that an increase in number of sexual partners (even when each partner is "monogamous") together with absent or inconsistent condom use leads to an increased risk of sexually transmitted infection (STI). It appears as though couples in serially monogamous relationships are very likely to think that they are safe from STIs and often engage in risky sexual behaviors such as discontinuing condom use without ever being tested for STIs (Fisher & Boroditsky, 2000; Lear, 1995; Macaluso, Demand, Artz, & Hook, 2000; Nguyen, Saucier, & Pica, 1996; Reisen & Poppen, 1995). Moreover, it has been found that Canadian women who receive a prescription for a hormone based contraception (i.e. "The Pill", Depo-Provera, Evra Contraceptive Patch, NuvaRing, or Hormonal IUD) are exceedingly likely to cease condom use, without any STI/HIV testing, and their STI/HIV incidence increases dramatically as a result of well-intentioned nonbarrier contraceptive use. In order to reduce the risk of HIV/STI infection in these relationships, we wanted to decrease the stigma and relationship threat that are often associated with safer sex practices (such as continued condom use and mutual HIV/STI testing) by increasing physicians' involvement in women's decisions to implement safer sex strategies into the context of their intimate relationships.

Thus, the purpose of the current study was to implement and evaluate a very brief physician-initiated intervention designed to promote safer sex in women's sexual relationships. Women (aged 18-30) were recruited from university-based student health centers in Toronto and were randomly assigned to one of two conditions – standard contraceptive care (comparison group) or physician-initiated STI prevention counseling (intervention group). Women in the comparison group received the usual care provided by physicians during contraceptive appointments, while women in the STI prevention counseling group were asked specific questions about their safer sex behaviours, received a behavioural prescription for safer sex practices (i.e., consistent condom use, or mutual testing), and were given a safer sex information package. Thus, the primary goal of our

Andrea K. Foy, Dr. W.A. Fisher, and Dr. D.A. Wolfe
Department of Psychology, Social Science Centre
University of Western Ontario, London, Ontario N6A 5C2

research was to create a physician-initiated prevention strategy that would encourage women and their partners to practice safer sex even after the prescription of hormone-based contraception (i.e., "The Pill", Depo-Provera, Evra Contraceptive Patch, NuvaRing, or Hormonal IUD).

We hope that this study will help researchers better understand safer sex behaviours in the context of serious and committed sexual relationships. More specifically, we hope that this study will help us to better understand whether our brief physician initiated intervention has a significant impact of patients' consistent use of condoms, and mutual STI/HIV testing. We are also interested in whether the effectiveness of the intervention is affected by women's current contraceptive use (i.e. condoms, or "The Pill"), or the duration of their sexual relationship (i.e. a new versus established sexual relationship). Finally, it is hoped that the information generated from this study will help improve the services for women attending university student health services, and enhance our understanding of this important area of health behaviour.

Questions or Concerns

If you have any questions or concerns about this study, please contact Andrea Foy at or you may contact Dr. Fisher or Dr. Wolfe at the contact information listed below. We are happy to answer any questions that you have. If you have questions about the conduct of this study or your rights as a research subject you may contact: The Director of Office of Research Ethics, The University of Western Ontario at or .

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RBC Investments Chair in Developmental
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The UWO Women's Survey

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Department of Psychology, Social Science Centre
University of Western Ontario, London, Ontario N6A 5C2

Additional information on this topic may be obtained from the following references:

El-Bassel, N., Witte, S., Gilbert, L., Wu, E., Chang, M., Hill, J., & Steinglass, P. (2005). Long-term effects of an HIV/STI sexual risk reduction intervention for heterosexual couples. *AIDS and Behavior, 9*(1), 1-13.

Bird, S.T., Harvey, S.M., Beckman, L.J., & Johnson, C.H. (2001). Getting your partner to use condoms: Interview with men and women at risk of HIV/STDs (The PARTNERS Project). *The Journal of Sex Research, 38*(3), 233-240.

Klein, R., & Knäuper, B. (2003). The role of cognitive avoidance of STIs for discussing safer sex practices and for condom use consistency. The Canadian Journal of Human Sexuality, *12*(3-4), 137-149.

Patrick, D.M., Wong, T., & Jordan, R.A. (2000). Sexually transmitted infections in Canada: Recent resurgence threatens national goals. *The Canadian Journal of Human Sexuality, 9*(3), 149-168.

Smith, L.A. (2003). Partner influence on noncondom use: Gender and ethnic differences. *The Journal of Sex Research, 40*(4), 346-350.

Available Resources

1. **Bay Centre for Birth Control (416) 351-3700**
   - 790 Bay Street, 8th Floor, Toronto
   - free condoms, contraception at reduced cost
   - STI testing & treatment, anonymous HIV testing, emergency contraception (i.e. "Morning After Pill"), health card not required

2. **"The House" Community Health Centre (416) 927-7171**
   - 36B Prince Arthur Avenue (near St. George subway station)
   - Youths: 13-25, accept patients without health cards
   - free condoms and lube, contraception at reduced cost, STI testing & treatment, anonymous HIV testing, birth control, pregnancy tests
   - Web: www.ppt.on.ca/thehouse.html

The UWO Women's Survey

Andrea K. Foy, Dr. W.A. Fisher, and Dr. D.A. Wolfe
Department of Psychology, Social Science Centre
University of Western Ontario, London, Ontario N6A 5C2

3. **Hassle Free Clinic (416) 922-0566**
   - 66 Gerard Street East (at Church St.), 2nd Floor
   - separate clinic for women, accept patients without health cards
   - STI testing & treatment, anonymous HIV testing, contraception
   - Web: www.hasslefreeclinic.org

4. **The AIDS Committee of Toronto (416) 340-2437**
   - Support services for people living with or affected by HIV/AIDS
   - Counseling, support and discussion groups, practical services, employment action, education and outreach programs and more
   - E-mail: ask@actoronto.org
   - Web: www.actoronto.org

5. **AIDS & Sexual Health InfoLine 1-800-668-7544**
   - A province-wide, free, and anonymous service
   - Counselors speak 17 languages

6. **Helpful Website**: www.sexualityandu.ca

Thank you for your participation!

Appendix I

Ethics Approval Notices

Office of Research Ethics

The University of Western Ontario
Room 00045 Dental Sciences Building, London, ON, Canada N6A 5C1
Telephone: Fax: Email:
Website

Use of Human Subjects - Ethics Approval Notice

Principal Investigator: Dr. W.A. Fisher
Review Number: 10834E
Revision Number:
Protocol Title: Physician Initiated STI Prevention Counseling: Targeting Women to Reach Couples
Department and Institution: Psychology, University of Western Ontario
Sponsor: NATIONAL INSTITUTE OF MENTAL HEALTH
Approval Date: 21-Sep-04
End Date: 30-Jun-05
Documents Reviewed and Approved: UWO Protocol, Letter of Information & Consent Form
Documents Received for Information:

This is to notify you that the University of Western Ontario Research Ethics Board for Health Sciences Research Involving Human Subjects (HSREB) which is organized and operates according to the Tri-Council Policy Statement and the Health Canada/ICH Good Clinical Practice Practices: Consolidated Guidelines; and the applicable laws and regulations of Ontario has received and granted expedited approval to the above named research study on the date noted above. The membership of this REB also complies with the membership requirements for REB's as defined in Division 5 of the Food and Drug

This approval shall remain valid until end date noted above assuming timely and acceptable responses to the HSREB's periodic requests for surveillance and monitoring information. If you require an updated approval notice prior to that time you must request it using the UWO Updated Approval Request Form.

During the course of the research, no deviations from, or changes to, the protocol or consent form may be initiated without prior written approval from the HSREB except when necessary to eliminate immediate hazards to the subject or when the change(s) involve only logistical or administrative aspects of the study (e.g. change of monitor, telephone number). Expedited review of minor change(s) in ongoing studies will be considered. Subjects must receive a copy of the signed information/consent documentation.

Investigators must promptly also report to the HSREB:

a) changes increasing the risk to the participant(s) and/or affecting significantly the conduct of the study;
b) all adverse and unexpected experiences or events that are both serious and unexpected
c) new information that may adversely affect the safety of the subjects or the conduct of the study

If these changes/adverse events require a change to the information/consent documentation, and/or recruitment advertisement, the newly revised information/consent documentation, and/or advertisement, must be submitted to this office for approval.

Members of the HSREB who are named as investigators in research studies, or declare a conflict of interset, do not participate in discussion related to, nor vote on, such studies when they are presented to the HSREB.

Office of Research Ethics

The University of Western Ontario
Room 00045 Dental Sciences Building, London, ON, Canada N6A 5C1
Telephone: Fax: Email:
Website

Use of Human Subjects - Ethics Approval Notice

Principal Investigator: Dr. W.A. Fisher
Review Number: 10834E
Revision Number: 2
Protocol Title: Physician Initiated STI Prevention Counseling: Targeting Women to Reach Couples
Department and Institution: Psychology, University of Western Ontario
Sponsor: NATIONAL INSTITUTE OF MENTAL HEALTH
Approval Date: 24-Feb-05
End Date: 30-Jun-05
Documents Reviewed and Approved: Addition of Recruitment Site, Revised Inclusion Criteria, Revised Letter of Information, Revised Procedure for Follow-up, Revised Study End Date, Revised Research Materials (to Reflect Recruitment Site)
Documents Received for Information:

This is to notify you that the University of Western Ontario Research Ethics Board for Health Sciences Research Involving Human Subjects (HSREB) which is organized and operates according to the Tri-Council Policy Statement and the Health Canada/ICH Good Clinical Practice Practices: Consolidated Guidelines; and the applicable laws and regulations of Ontario has received and granted expedited approval to the above named research study on the date noted above. The membership of this REB also complies with the membership requirements for REB's as defined in Division 5 of the Food and Drug

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Members of the HSREB who are named as investigators in research studies, or declare a conflict of interset, do not participate in discussion related to, nor vote on, such studies when they are presented to the HSREB.

Curriculum Vitae

Education

2000 – 2008	**Doctorate in Clinical Psychology** The University of Western Ontario London, Ontario
2005 – 2006	**Residency in Clinical Psychology** Anxiety Disorders, Mood Disorders and Eating Disorders St. Joseph's Healthcare Hamilton Hamilton, Ontario
1998 - 2000	**Masters in Personality Psychology** The University of Western Ontario London, Ontario
1992 - 1996	**Bachelor of Arts, Honours Psychology** The University of Ottawa Ottawa, Ontario

Scholarships and Awards

2005	CIHR Health Professional Student Research Stipend
2004	Ontario Graduate Scholarship
2002 – 2004	Social Sciences and Humanities Research Council of Canada Doctoral Fellowship (SSHRC)
2002	Ontario Graduate Scholarship (declined)
2001 - 2002	Ontario Graduate Scholarship
1998 - 2001	Special University Scholarship
2000	President's Scholarship for Graduate Study
2000	Nominated for a Graduate Student Teaching Award
2000	Teaching Assistant of the Year: Research Methods in Psychology

Related Work Experience

2004 – 2005	Research Consultant: Parent Newsletter on Teen Risk Behaviours The University of Western Ontario, London, Ontario
2000 – 2003	Research Consultant: Human Growth and Sexuality Module University of Western Ontario, London, Ontario
2001	Research Consultant: Violence Prevention in Schools Data Thames Valley District School Board, London, Ontario

1999	Research Assistant: Hormone Replacement Therapy University of Western Ontario, London, Ontario
1997 - 1998	Project Coordinator: HPV in Ontario Women St. Joseph's Healthcare Hamilton, Hamilton, Ontario
1997 - 1998	Research Associate: Cost Effectiveness of Chlamydia Screening St. Joseph's Healthcare Hamilton, Hamilton, Ontario

Journal Reviewer

2001	Journal of the International Society for the Study of Personal Relationships

Publications

Foy, A.K., Vernon, P.A., & Jang, K. (2001). Examining the dimensions of intimacy in twin and peer relationships. *Twin Research, 4*(6), 443-452.

Goeree, R., Jang, D., Blackhouse, G., Chong, S., Mahony, J., Sellors, J., **Foy, A.**, & Chernesky, M. (2001). Cost-effectiveness of screening swab or urine specimens for *C. trachomatis* from young Canadian women in Ontario. *Sexually Transmitted Diseases, 28*(12), 701-709.

Vernon, P.A., & **Foy, A.K.** (2001, June). University of Western Ontario Twin Study: Examining twin and peer relationships. *Bulletwin: For Parents of Twins, Triplets, Quadruplets and Quintuplets* (pp. 9-10). Toronto: Toronto Parents of Multiple Births Association.

Symposia

Foy, A.K. (2002, August). *Building Relationship Skills to Facilitate Healthy Sexuality Decisions in Adolescence*. Symposium conducted at the Victimization of Children and Youth: An International Research Conference. Portsmouth, New Hampshire.

Foy, A.K., & Vernon, P.A. (2000, May). *Twinship: Intimacy and Peer Relationships.* Symposium conducted at the Parents of Multiple Births Association (POMBA) Convention 2000. Niagara Falls, Ontario.

Chernesky, M., Goeree, R., Jang, D., Chong, S., Faught, M., **Foy, A.**, Sellors, J., Forrest, K., & Mahony, J. (1998, June). The impact on prevalence and costs of using the ligase chain reaction assay for diagnostic testing or screening young Canadian women for lower genital tract infection with *Chlamydia Trachomatis* using a computer derived mathematical model. *Proceedings of the Ninth International Symposium on Human Chlamydial Infection, California*, p. 607-610.

Shaw, E., Ogilvie, G., Sellors, J., Kaczorowski, J., Goldsmith, C., Lytwyn, A., **Foy, A.**, & Roth, P. (1998, Nov.). *The predictive value of colposcopic features.* Presentation at the North American Primary Care Research Group, Montreal.

Poster Presentations

Foy, A.K., & Vernon, P.A. (2000, June). *Examining the Dimensions of Intimacy in Twin and Peer Relationships*. Poster session presented at the annual meeting of the Canadian Psychological Association, Ottawa, Ontario.

Foy, A.K., Pelletier, & Manion, I.G. (1996, May). *The Perceived Social Functioning of Adolescents with Epilepsy*. Poster session at the Twenty Second Annual Honors Thesis Conference, University of Ottawa, Ottawa, Ontario.