Identification of young people at risk of sexual ill health

– implementing a new tool in youth clinics

Sofia Hammarström

Linköping University Medical Dissertations No. 1784

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– implementing a new tool in
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Linköping 2021

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Printed in Sweden by LiU-Tryck, Linköping, Sweden, 2021

ISBN 978-91-7929-638-4

ISSN 0345-0082

"There were all my answers, I had been honest. I used to do drugs, so we talked about that and how guys treated me and things like that. So, yes, we started talking more after that piece of paper. I wouldn't have opened up otherwise, sure if she would have asked, but I still wouldn't have told as much without that paper. So, we had a conversation, it went well."

Lisa, 17 years, interviewed for Study III

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ABSTRACT

Background: Young people are at increased risk of sexual ill health in terms of sexually transmitted infections, unintended pregnancy, and sexual violence. There is limited knowledge of evidence-based preventive practices for identification of young people at risk of sexual ill health when in contact with health care.

Aims: The overall aim of this thesis was to generate new knowledge concerning how Swedish youth clinics can work systematically to identify young people at risk of sexual ill health or who have negative sexual experiences. Specific objectives were to develop a risk-assessment model for the identification of youth at risk of contracting chlamydia; to develop and pilot-implement an evidence-informed tool for identifying young people at risk of sexual ill health in terms of sexually transmitted infections, unintended pregnancies, and sexual violence at Swedish youth clinics; and to explore youth clinic visitors' and staff's experiences of using that tool.

Methods: The thesis takes a mixed methods approach and includes four studies. First, data from a national sample of sexually active young people, aged 15–24 years ($n=6544$), were used to develop a risk-assessment model for chlamydia infection. Second, a risk-assessment tool (SEXual health Identification Tool; SEXIT) was developed and pilot-implemented at three youth clinics for 1 month. The tool includes three components: (1) staff training; (2) a questionnaire for youth clinic visitors; and (3) a written guide for staff to support the subsequent dialogue and risk assessment based on the questionnaire. Questionnaire data from visitors ($n=268$) and staff ($n=18$) were analysed. Third, youth clinic visitors' experiences were explored in 20 interviews with visitors (15–24 years) from the participating youth clinics. Fourth, staff's experiences of working with SEXIT were investigated in four focus group discussions ($n=16$). Quantitative and qualitative methods were used for data analyses.

Results: The risk-assessment model demonstrated that the distribution of chlamydia is skewed; 38% of cases were estimated to occur among a tenth of the population. Women most at risk of chlamydia were best identified using the variables age, number of sexual partners in the past year, and experience of sex for reimbursement. The corresponding variables for men were age, number of sexual partners, and alcohol use. SEXIT was validated and pilot-implemented at three youth clinics (response rate 86%). Before implementation, all staff perceived a need for more systematic screening

for sexual risk-taking and sexual ill health at youth clinics. Youth clinic visitors demonstrated between 0 and 7 parallel risk factors. Staff experienced that using SEXIT systematically increased the consistency and quality of the clinics' work, and youth clinic visitors reported that the questions were important and not uncomfortable or difficult. The visitors explained that questions in a written format followed by a dialogue initiated by the youth clinic staff enabled disclosure of negative experiences.

Conclusions: The risk-assessment model demonstrates that the number of partners during the past year is the most important risk factor for chlamydia regardless of gender. SEXIT is an acceptable, appropriate, and feasible tool from the perspective of youth clinic staff, youth clinic visitors, and from an implementation point of view. Using the tool systematically may help raise important questions on sexual risk-taking and sexual ill health with youth clinic visitors and identify visitors with multiple risk factors. Being asked the sensitive yet important questions in SEXIT, followed by a respectful and non-judgemental conversation led by the youth clinic staff, has the potential to open up a more in depth and broader dialogue about the visitors' sexual health. The systematic procedure helps youths feel that they are taken seriously and instils a feeling of trust that enables disclosure of sensitive experiences. From the staff perspective, SEXIT facilitates identification of young people exposed to or at risk of sexual ill health by simplifying and ensuring consistency and quality in their work.

SVENSK SAMMANFATTNING

Identifiering av unga som riskerar sexuell ohälsa – implementering av en ny metod på ungdomsmottagningar

Bakgrund: Unga människor löper en ökad risk för sexuell ohälsa i form av sexuellt överförbara sjukdomar, oplanerade graviditeter och sexuellt våld. Sexuell ohälsa förblir dock ofta ouppmärksam eftersom unga sällan berättar om dessa erfarenheter i kontakt med hälso- och sjukvården och vårdpersonal frågar inte regelbundet om riskutsatthet och negativa sexuella erfarenheter. Det finns tämligen begränsad kunskap om hur vården kan arbeta evidensbaserat för att identifiera unga personer som riskerar sexuell ohälsa så att ytterligare risktagande och ohälsa kan förebyggas.

Syfte: Det övergripande syftet med avhandlingen var att utveckla kunskap om hur svenska ungdomsmottagningar kan arbeta mer systematiskt för att identifiera unga som riskerar sexuell ohälsa eller har negativa sexuella erfarenheter. Delstudiernas specifika syften var: 1) att utveckla en riskbedömningsmodell för identifiering av unga som riskerar klamydia; 2) att utveckla och pilot-implementera en vetenskapligt underbyggd metod för användning på ungdomsmottagningar i syfte att identifiera unga som riskerar sexuell ohälsa; 3) att undersöka ungdomsmottagningsbesökarnas erfarenheter av metoden; samt 4) att undersöka personalens erfarenheter av att arbeta med metoden.

Metoder: Avhandlingen använder både kvantitativa och kvalitativa metoder i en mixad-metod-ansats. Studie I bygger på data från ett nationellt urval av unga, 15–24 år (n=6544), för att utveckla en riskbedömningsmodell för klamydia. I studie II utvecklades en metod (SEXual health Identification Tool; SEXIT) som pilot-implementerades på tre ungdomsmottagningar i Västra Götaland under en månad. SEXIT består av tre delar: utbildning för personal, ett formulär för besökare och en guide för att stödja personal i det efterföljande samtalet och riskbedömningen. Enkät svar från både besökare (n=268) och personal (n=18) samlades in. I studie III intervjuades 20 unga personer (15–24 år) som besökt en ungdomsmottagning då SEXIT användes. I studie IV hölls fyra fokusgruppsdiskussioner med personal (n=16) från de deltagande ungdomsmottagningarna.

Resultat: Riskbedömningsmodellen för klamydia visade att klamydia är ojämnt fördelad bland unga. En tiondel av de unga beräknades stå för 38% av klamydiafallen under en treårsperiod. För kvinnor var de viktigaste riskfaktorerna ålder, antal sexpartners det senaste året och erfarenhet av att ta emot ersättning för sex. Motsvarande för män var antal sexpartners det senaste året samt alkoholkonsumtion. Samtlig personal menade att det fanns ett behov av ett mer systematiskt arbete med att identifiera unga som riskerar sexuell ohälsa på ungdomsmottagningar. Besökarna som besvarade SEXIT uppvisade stor variation i riskutsatthet och angav 0 till 7 parallella riskfaktorer. Personalen bedömde att systematisk användning av SEXIT med alla besökare ökade både kvalitén och jämlikheten i den vård som erbjöds, samt att metoden underlättade bedömningen av riskutsatthet. Besökarna svarade att frågorna i SEXIT var viktiga och varken svåra eller obehagliga att besvara. Vidare ansåg besökarna att formatet med skriftliga frågor med fasta svarsalternativ som besvaras enskilt och följs upp i ett samtal med personalen, möjliggjorde att berätta om negativa erfarenheter som annars kan vara svåra för dem att ta upp i vårdmötet.

Slutsatser: Gruppen unga som löper ökad risk att få klamydia kan identifieras med en riskbedömningsmodell där antalet partners under det senaste året är den enskilt viktigaste riskfaktorn oavsett kön. SEXIT är en välfungerande och uppskattad metod både ur vårdpersonalens och besökarnas perspektiv. Systematisk användning av SEXIT säkerställer att alla besökare får möjlighet att samtala kring sexuellt risktagande och sexuell ohälsa, samt hjälper personalen att uppmärksamma besökare som rapporterar flera parallella riskfaktorer och är i större behov av råd och stöd. Att ställa de potentiellt känsliga men viktiga frågorna i SEXIT, följt av ett respektfullt och icke-dömande samtal som leds av vårdgivaren, har potential att öppna upp för en fördjupad och utökad dialog om besökarens sexuella hälsa. Rutinen att SEXIT erbjuds alla men också är frivilligt att besvara, fick besökarna att känna att ungdomsmottagningen var angelägna om ämnen som också var viktiga för besökarna, men att de samtidigt respekterade besökarnas integritet. Rutinen bidrog till att skapa en känsla av tillit som underlättade att berätta om svåra erfarenheter. Ungdomsmottagningens personal upplever att SEXIT säkerställer kvalitet och kontinuitet i deras arbete och underlättar identifiering av unga som riskerar eller har erfarenhet av sexuell ohälsa. Implementeringen av SEXIT fungerade väl, men försvårades av att det ännu inte är införlivat i befintliga kliniska rutiner såsom journalföring och svårigheter att hinna med SEXIT under drop-in mottagning. Det fanns en viss ambivalens hos kuratorer och psykologer kring att använda SEXIT med samtliga besökare eftersom de är vana vid att individanpassa sina metoder.

LIST OF PAPERS

- I. Hammarström S, Tikkanen R, Stenqvist K. Identification and risk assessment of Swedish youth at risk of chlamydia. *Scandinavian Journal of Public Health*. 2015; 43: 399–407.
- II. Hammarström S, Nilsen P, Lindroth M, Stenqvist K, Bernhardsson S. Identifying young people exposed to or at risk of sexual ill health: pilot implementation of an evidence-informed toolkit (SEXIT) at Swedish youth clinics. *European Journal of Contraception and Reproductive Health Care*. 2019; 24:1; 45–53.
- III. Hammarström S, Bernhardsson S, Nilsen P, Elisson J, Frostholt E, Lindroth M. Ask me, listen to me, treat me well and I shall tell: youth clinic visitors' experiences of systematic assessment of sexual ill health and risk-taking (SEXIT). Submitted to *Sexual and Reproductive Health Matters*.
- IV. Hammarström S, Lindroth M, Nilsen P, Nolskog P, Bernhardsson S. Staff's experiences of a pilot implementation of the SEXual health Identification Tool for assessing sexual ill health among visitors to Swedish youth clinics: a focus group study. *Sexual & Reproductive Healthcare*. 2021. DOI: 10.1016/j.srhc.2021.100643

ABBREVIATIONS

AUDIT	Alcohol Use Disorders Identification Test
CI	Confidence interval
DoI	Diffusion of Innovations
DUDIT	Drug Use Disorders Identification Test
EBP	Evidence-based practice
EBM	Evidence-based medicine
KSH	Swedish abbreviation for the Knowledge Centre for Sexual Health unit
LARC	Long-acting reversible contraception
LGBT	Lesbian, gay, bisexual and transgendered
OR	Odds ratio
PARIHS	Promoting Action on Research Implementation in Health Services
PTSD	Post-traumatic stress disorder
ROC	Receiver operating characteristic
SD	Standard deviation
SEXIT	SEXual health Identification Tool
SPSS	Statistical Package for the Social Sciences
SRHR	Sexual and reproductive health and rights
STI	Sexually transmitted infection
UngKAB	Swedish abbreviation and name of studies on youth Knowledge, Attitude and Behaviour concerning sexuality
WHO	World Health Organization
QIF	Quality Implementation Framework

PREFACE

This journey started in 2012 when I was about to write my master's thesis in public health at University of Gothenburg. I contacted the Knowledge Centre for Sexual Health (KSH) in Region Västra Götaland to discuss ideas and cooperation. My interest in sexual and reproductive health has been a focus throughout my life, and luckily KSH saw the potential benefits of collaboration. Karin Stenqvist, a specialist in infectious diseases and manager at KSH, and Ronny Tikkanen, a senior lecturer at the Department of Social Work, University of Gothenburg, supervised my master's thesis, which explored risk factors for chlamydia infection based on data from the national UngKAB09 study.

In 2014, I was given the opportunity to join the team at KSH as a development manager and more actively engage in how to make use of the interesting results of my master's thesis. The results pointed in the same direction as the clinical experience of colleagues within the Department of Communicable Disease Control and Prevention, and the clinic SMC-Pilen specializing in sexually vulnerable people, including young patients with experience of sexual violence, reimbursement for sex, and concurring alcohol and drug problems; namely, that some groups of young people are more exposed to sexual risk-taking and ill health than others. This observation prompted the question: *how can health care identify risk-taking and sexually exposed young people at an early stage to prevent further risk-taking and ill health?*

My experienced colleagues, Karin Stenqvist and Emma Svanholm, a midwife at SMC-Pilen, joined me in forming a team with the aim of realizing an idea of Emma's: screening for sexual risk-taking and ill health with a questionnaire. As we aimed to develop a new tool that potentially would be of use in clinical practice, we decided early on that the process needed to be conducted as a robust and rigorous research project. Our idea was to transform knowledge from both scientific evidence and clinical expertise into a clinical tool, pilot-implement that tool in youth clinics, and study patients' preferences and clinical experiences of the tool.

The continuation of the story is described in the four studies of this thesis. Knowledge gained in research needs to find its way into clinical practice. During this research process, I have acted as a development manager; a parallel journey that has been largely left out of the thesis. The initial tool has been adjusted and further developed continuously over the years. Interest in the sexual health identification tool (SEXIT) has been far

greater than I expected, from many parts of Sweden, suggesting there is a need for this type of tool for use in youth clinics.

BACKGROUND

This chapter starts by positioning the thesis within the larger framework of sexual and reproductive health and rights (SRHR). It then narrows down to the focus of the thesis: sexual ill health and more specifically identification of young people at risk of sexual ill health. The chapter also describes the youth clinic as the setting for the research and aspects concerning disclosing negative or socially non-conforming experiences, and ends by providing the rationale for the thesis.

Sexual and reproductive health and rights

Sexuality is complex and multifaceted, and is usually depicted as a biopsychosocial phenomenon, meaning that biological, psychological, interpersonal, and sociocultural factors interact with each other and affect sexuality [1]. Sexuality is also a determinant of health, and sexual health is dependent on many other aspects of health, lifestyle factors, socioeconomic factors, and other structural factors [2].

SRHR is a relatively new concept. Since the International Conference on Population and Development in Cairo 1994, global health and human rights communities have worked to define and advance SRHR. Although the SRHR community recognizes that SRHR is a broad concept, most global agreements have taken a narrow view of SRHR, often focusing on reproductive health, and rarely including the rights perspective [1].

In 2018, the international collaboration Guttmacher-Lancet Commission on Sexual and Reproductive Health and Rights published a comprehensive and evidence-based agenda for key SRHR priorities, grounded in human rights [1]. The report highlighted the benefits of investing in SRHR, not just from a health perspective but also in terms of broader social and economic development. To guide this vision, the commission suggested a new definition of SRHR:

Integrated definition of sexual and reproductive health and rights

Sexual and reproductive health is a state of physical, emotional, mental and social well-being in relation to all aspects of sexuality and reproduction, not merely the absence of disease, dysfunction or infirmity. Therefore, a positive approach to sexuality and reproduction should recognize the part played by pleasurable sexual relationships, trust and communication in promoting self-esteem and overall well-being. All individuals have a right to make decisions governing their body and to access services that support that right.

Achieving sexual and reproductive health relies on realizing sexual and reproductive rights, which are based on the human rights of all individuals to:

- have their bodily integrity, privacy, and personal autonomy respected
- freely define their own sexuality, including sexual orientation and gender identity and expression
- decide whether and when to be sexually active
- choose their sexual partners
- have safe and pleasurable sexual experiences
- decide whether, when, and whom to marry
- decide whether, when, and by what means to have a child or children and how many children to have
- have access over their lifetime to the information, resources, services, and support necessary to achieve all of the above free from discrimination, coercion, exploitation, and violence.

Guttmacher–Lancet Commission on Sexual and Reproductive Health and Rights [1]

SRHR has its legal foundation in several human rights documents, including the United Nations Convention on the Rights of the Child [3] and political commitments such as the Sustainable Development Goals of Agenda 2030 [4].

As the SRHR definition clarifies, sexual health requires the realization of sexual and reproductive rights, and preventing sexual ill health is one way of realizing those rights. This thesis focuses on the prevention of sexual ill health as a means of reaching the wider goal of sexual and reproductive health and rights.

Sexual ill health among young people

Sexual ill health is a wide and subjective concept. This thesis focuses on three types of sexual ill health: sexually transmitted infections (STIs), unintended pregnancies, and sexual violence.

Globally, young people, defined as those aged 10–24 years, are disproportionately burdened by sexual and reproductive health problems in terms of STIs, unintended pregnancies [5], and exposure to sexual and gender-based violence [6]. These experiences not only affect health and well-being directly as experiences during a critical development phase in life, they may also lead to long-term negative consequences.

Sexually transmitted infections

Globally, STIs are a major public health concern affecting quality of life and causing both morbidity and mortality. The most common bacterial STI is caused by *Chlamydia trachomatis* and young people are disproportionately burdened [7]. Chlamydia is transmitted through unprotected sex or from mother-to-child during childbirth [7]. The infection is predominantly asymptomatic and therefore testing is important. Chlamydia is easily treated with antibiotics, but left untreated, it can cause severe complications, including pelvic inflammatory disease, ectopic pregnancy, and infertility [8].

Chlamydia is also the most common bacterial STI among young people in Sweden. Of approximately 37,000 cases annually, nearly 80% of those infected are aged 16–29 years [9]. Among young people aged 16–29 years, 11% report ever having a chlamydia infection. Twice as many young women (64%) compared with men (31%) report ever getting tested for chlamydia [10].

Regarding chlamydia, many preventive initiatives and efforts have been undertaken in Sweden over the years; testing and treatment free of charge for the patient, improved accessibility to health care, chlamydia testing offered via the Internet, mandatory contact tracing, and improved counselling using, for example, motivational interviewing [11]. Despite these efforts, the incidence of chlamydia remains high in the youth population [9], mainly explained by low use of condoms; 25% used a condom during their most recent sexual encounter [10]. Not using a condom is explained by relying on hormonal contraceptives, preferring non-use for greater pleasure, assessing their partner as STI negative, and not regarding chlamydia as a dangerous disease [12]. The low number of men visiting youth clinics is another explanation, as well as youth using STI testing as a method of prevention of STIs [13]. However, there are also concerns about the quality of care; only 53% of young people report having

received professional counselling on risks and protection during their most recent STI test [10].

Unintended pregnancies

Unintended pregnancies among adolescents are a global problem, but they are more likely to occur in marginalized families and communities [14]. Unintended pregnancy does not necessarily equate to unwanted pregnancy, but without proper planning, it may lead to a range of health risks and complications for the expected child and parents. Several factors contribute to unintended pregnancies in adolescents. One key factor is the lack of access to and use of modern contraceptive methods [14]. Globally, one in four adolescent girls aged 15–19 years who want to avoid pregnancy are currently not using a modern method [15]. Approximately half of unintended pregnancies are due to non-use of contraceptives and the other half are due to contraceptive failure, mainly as a result of inconsistent or incorrect use. Every year, the unmet need for modern contraception results in millions of unintended pregnancies, abortions, and maternal deaths.

In Sweden, young people have high access to contraceptive services and safe abortions. Contraceptives, including emergency contraceptives, are free of charge up to the age of 21 years, but in many regions they are subsidized until age 25 years, and free condoms are distributed at youth clinics [16]. Abortions among young women have diminished over the last decade to 10/1000 women aged 15–19 years and 24.4/1000 women aged 20–24 years in 2019 [16]. Still, Sweden has one of the highest rates of abortion in Europe [17]. Sweden also has many repeat abortions among women <19 years old who undergo an abortion; 15% had at least one previous abortion, and the corresponding number was 37% for those aged 20–24 years [16,18].

The trend of diminishing abortion rates in Sweden is attributed to increased use of long-acting reversible contraception (LARC) [16,19]. LARC methods include intrauterine devices and sub-dermal implants. These methods are not user-dependent, making their effectiveness superior to that of contraceptive pills, patches, or rings [20]. Despite being both safe and effective for adolescents, the user rate of LARC remains low for this population [21]. Identified barriers include lack of provider skill in inserting and counselling about LARCs, inability to perform same-day LARC insertion, lack of hospital protocols for immediate postpartum insertion [22] and financial support for LARC devices [23].

Sexual violence

Sexual violence is defined by the World Health Organization (WHO) as any sexual act, attempt to obtain a sexual act, or other act directed against a

person's sexuality using coercion, by any person regardless of their relationship to the victim, in any setting [6]. Sexual violence can result in immediate and long-term health consequences, including physical, sexual and reproductive, psychological, and behavioural consequences [24–27].

Estimates of sexual violence worldwide vary profoundly between countries [27] and are difficult to compare based on differences in both definitions, methods used and levels of reporting [6]. Moreover, the literature sometimes focuses on specific forms of sexual violence, such as child sexual abuse, intimate partner violence, or dating violence. In an American study of middle- and high-school students, sexual violence victimization, defined as unwanted sexual teasing, messages, touching or penetration from another peer, was reported by 34% of boys and 54% of girls during a 4-year period [28]. Same-sex victimization was reported by 14% and sexual violence perpetration was reported by 25% of all boys and 10% of all girls.

In Sweden, a representative study of high-school seniors (18 years old) suggests that sexual violence, with a similar definition of unwanted sexual acts, was experienced by approximately one-fifth of the students [29]. Young women were three times more exposed than young men (29% vs. 10%), and sexual violence was reported most frequently by students who did not wish to categorize themselves as either man or woman (40%). When classified into categories, experiencing any kind of penetrating sexual assault was reported by 10% of the women and 3% of the men [29].

In Sweden, selling sex, also known as prostitution, is considered a sub-category of the broader concept of men's violence against women. This explains why buying sex is criminalized, but selling sex is not. Experiences of both physical, emotional, and sexual violence are common among adolescent who sell sex [30,31]. An analysis of the existing literature suggests that 50%–93% of female adolescents who sell sex had been physically harmed by buyers, pimps, and others [32]. In Swedish high-school populations, the prevalence of adolescents with experience of selling sex is estimated to be 1%–2% [33,34], which is in line with research from other western countries [35]. The same study found that almost all girls, and 75% of the boys selling sex had experience of sexual abuse, experiences that often took place before they started selling sex [34]. The experience of selling sex is associated with sexual, physical, and emotional abuse and poor mental health, including trauma symptoms [32,36]. In addition, self-injury is frequently reported, and alcohol and drug use are common [32]. This thesis uses the term reimbursement for sex or transactional sex, because young people usually do not identify themselves with the term prostitution [37], and because the reimbursement is not only monetary; it can be in the form of drugs, gifts, housing, etc. [33,38].

Identification of youth at risk of sexual ill health

Identification of individuals at risk of ill health or early identification of manifest ill health when in contact with health care is a well-known prevention strategy to avoid illness and harm. Concerning the focus on sexual ill health in this thesis, this identification can be made by testing for STIs and unintended pregnancies, looking for symptoms or signs, and by asking youth clinic visitors for previous experiences and known risk factors. Risk factors help us understand why certain individuals are more at risk of a negative outcome than others. Asking visitors for risk factors can be done when taking the patient's medical history.

Sexual risk factors and connections

In this thesis, sexual risk factors are defined as factors associated with STIs, unintended pregnancies, and sexual violence. They can be behavioural, such as individuals' intentional or unintentional sexual risk-taking, or more contextual, such as factors making individuals more prone to being exposed to sexual ill health. In many cases, the direction of the association is unknown.

Sexual risk-taking is commonly defined as risking an unintended pregnancy and/or STI by not using a condom or other contraception. Previous experience of chlamydia infection and unintended pregnancy can also be considered risk factors, because they are associated with repeated chlamydia infections [39,40] or unintended pregnancies [41]. Other factors found to be associated with sexual risk-taking and ill health are substance use [42–44], early sexual initiation (<15 years) [45], and multiple sexual partners [39,40,46]. The proportion of young women reporting sexual risk factors have increased in the Scandinavian countries when comparing 2005 with 2012 [47]. In Sweden, early sexual initiation is reported by 18%, more than ten lifetime sexual partners by 28% and past chlamydia infection by 29% [47]. Regarding substance use among young people in Sweden, alcohol consumption has decreased both regarding users and amounts, and illicit drug use has remained stable during the last decades [48]. Among 15-year-olds, 42% have consumed alcohol in the past 12 months, and among 17-year-olds, the corresponding number is 69% [48]. Among 17-year-old students, ever using illicit drugs was reported by 19% of men and 13% of women. The most common substance was cannabis [48]. Apart from these risk factors, some experiences may increase the risk of unprotected sex through limited or lack of ability to negotiate safer sex, such as selling sex and violence victimization [49].

Sexual risk-taking and sexual ill health are strongly associated with multiple violence victimization, regardless of gender [42], but particularly sexual abuse has been linked to risky sexual behaviour in young women

[50]. Childhood sexual abuse is a significant risk factor for risky sexual behaviours in adulthood among both men and women [51]. Other forms of childhood maltreatment (neglect, physical and emotional abuse) were also associated with risky sexual behaviour in both sexes as well as higher rates of youth pregnancy and miscarriage in women [52]. Additional risk factors for sexual violence in adolescents (victimization and perpetration) include depression, substance use, living in a low-resource community, attention deficit hyperactivity disorder (ADHD), and conduct disorder [28]. Past experiences of sexual victimization or perpetration are risk factors for repeated occurrence [53]. Sexual violence is a persistent risk factor for selling sex among adolescents [34,54,55]; one study suggested that the experience of child sexual abuse and neglect more than doubles the risk of selling sex in early adulthood [30].

Regarding risk factors for sexual violence perpetration, two types have been identified: the presence and acceptance of violence, and risky sexual behaviours, including, for example, multiple partners, early sexual initiation, and child sexual abuse [53].

Recent Swedish studies shed light on a new phenomenon in the literature: sex as self-injury [56,57]. The studies suggest that using sex as self-injury, defined as deliberate or self-inflicted sexual situations that can include psychological or physical harm, is a phenomenon reported by 2.2% of 18-year-olds. The motives for this behaviour were to regulate feelings and receive positive and negative confirmation. The group was characterized by experience of physical, emotional, and sexual abuse, trauma symptoms, depression, anxiety, selling sex, and multiple sexual partners [56,57]. The phenomenon is understudied but can likely be regarded both as a symptom of traumatic experiences and as a risk factor for repeated sexual victimization and sexual risk-taking [36]. One attempt to explain the pathway between sexual abuse and selling sex and sex as self-injury is that exposing oneself to a similar situation as the assault, but with some kind of control, is a way to cope with memories and flashbacks from the trauma [36].

Research on adolescents demonstrates that different manifestations of sexual ill health and different health risk behaviours tend to be interrelated and clinical experience in the field is that many risky behaviours are linked [46,58]. Several behaviours are predictive of each other and share the same risk factors. However, few studies have demonstrated a direct causal relationship between a risk factor and types of sexual ill health [46]. The behaviours are often believed to have common underlying factors, and theoretical models suggest that adolescent behaviours and attitudes are influenced by the social environment (family, school, neighbourhood, community institutions and peers) and by individual personality traits [46,58]. Multiple health risk behaviours in adolescents have been

associated with adverse childhood experiences, low parental socioeconomic status, and low level of education [46]. However, about two-thirds of the variation in health risk behaviour is explained by unique rather than common causes [58].

Sexual risk assessments

The scientific literature proposes that extended screening be performed by sexual health services [59–61]. The Centers for Disease Control and Prevention (CDC) in the United States recommends that a sexual history and STI risk assessment should be made at every initial comprehensive visit and at each visit concerning reproductive, genital, and urologic issues in primary care [62]. Unfortunately, research suggests that opportunities to screen for STIs [63] and take sexual histories are often missed by providers [64,65]. Most primary health care providers obtain a sexual history only if it is related to the patient complaint, but seldom do this routinely [62,66]. Lack of confidence, personal discomfort, sense of discomfort on the part of the patient or time constraints are possible explanations why healthcare professionals may forego enquiring about sexual health [64,67]. When sexual histories are obtained, they are usually not comprehensive, and providers may discuss sexual history differently based on the patients' demographic characteristics [64]. Young patients in particular agree that primary care providers should ask frequently about sexual health and that sexual health is an important part of well-being, but they also report that it is uncommon to have those conversations [68].

In Sweden, there are no national recommendations regarding taking a sexual history or performing STI risk assessments, but recommendations for STI testing exist at a regional level. The national strategy for HIV/AIDS and some other transmitted diseases concludes that the risk for sexual ill health is not evenly distributed among young people, and that methods to identify risk-taking youth are needed. Further, the strategy classifies the school, the school health care and youth clinics as cornerstones for preventive actions targeting youth [69].

Regarding systematic questions about violence victimization, a similar gap exists between what is recommended and what actions are typically taken in routine clinical care [70–73]. In Sweden, some regions have political decisions on implementing routine questioning about violence victimization in primary care, but data on how often the screening is performed in clinical practice are lacking.

To facilitate risk assessments in the patient–caregiver meeting, different tools and strategies can be found in the scientific literature. Some are screening tools aimed at classifying the patient as at risk or not based on the answers provided or a summarized score. Others aim to promote

communication of risks and ill health, which in turn enables a risk assessment. However, most clinical tools described in the literature focus on specific forms of ill health separately: child sex trafficking [74], violence victimization [72,75,76], STIs [77–79], alcohol use [80,81] and drug use [82]. Some endeavours to combine screening for violence and alcohol have been made [83]. Having a narrow focus improves the ability to correctly classify the patient regarding that specific question but entails the risk of missing the broader picture and the multiple risk exposures that are common among vulnerable youth.

With some exceptions, there is a paucity of studies in which individual medical prevention interventions have been developed and evaluated in clinical settings for youth, targeting several forms of sexual ill health and including the multiple risk behaviours that often co-occur.

Storytelling 4 Empowerment is a mobile app aimed at reducing substance use, STIs, teen pregnancy and the associated risk behaviours [84]. The app, developed in Spain, consists of a brief risk behaviour survey and targeted interactive content based on the youth's specific risk behaviours. The app was developed together with youth, and small-scale feasibility studies of the app have shown promising results, including more youth-clinician risk communication [85].

The *Sexual risk event history calendar* is a tool using open-ended questions about life events and sexual activity reported by the youth in a calendar format that captures information about the past, current and future year [86, 87]. The calendar is used to guide the interaction between the youth and clinician. The use of the calendar, developed in the United States, has resulted in more positive intentions to use condoms, possibly explained by the visual format encouraging the youths to reflect on their risk behaviour and by facilitating youth-provider communication [88].

These tools use different formats than the tool studied in this thesis project, and, to my knowledge, they are still being studied and are not implemented in routine practice. Nevertheless, the interest in facilitating communication and sexual risk assessments through a more holistic approach is promising.

Vulnerable groups

The interrelationship, and often similar risk factors, of the different manifestations of sexual ill health implies that some groups of youth are disproportionally burdened. Examples of groups identified in the literature as particularly disadvantaged are lesbian, gay, bisexual, and transgender (LGBT) youth [89–92], ethnic minorities [92,93], women [2,24,26,29], young people without higher education [94] and young people in out-of-home care [95–97].

Swedish population-based studies support the idea that some groups are particularly at risk for sexual ill health. In the UngKAB09 study, half of those who responded that their latest sexual encounter was with a new or unknown partner did not use a condom. The group was further characterized by alcohol and drug use, sexual debut at <15 years of age, experience of sexual violence and more sexual partners [12].

The most recent study, SRHR2017, concludes that there are differences in sexual and reproductive health and rights between different groups in the population and mentions greater vulnerability demonstrated among women, younger people and LGBT people [2]. Particularly gender differences were large, and some of the greatest differences were seen for sexual harassment, sexual violence, and experiences of reimbursement for sex. In the 16–29 years age group 57% of the women reported experience of sexual harassment, and 55% reported other forms of sexual violence. The corresponding numbers among men were 10% and 12% [2].

Raising sensitive issues and disclosing negative experiences

Research suggests that young people rarely raise sensitive sexual health concerns [61,71] or disclose experiences of sexual violence [98,99] to healthcare professionals on their own initiative. Although young people exposed to sexual violence, including those selling sex, are often in contact with health care or social services for other reasons, such as mental health issues, drug abuse, trouble sleeping or stomach pain [36], it is unusual that they disclose their experiences [74,100]. In an interview study of adolescents selling sex, the young women explained that they often felt misunderstood or that they had not been listened to [37]. Central factors for disclosing sexual abuse are being asked, being believed, shame/self-blame, concern for self and others, and peer influence. Young people express a feeling of both wanting and not wanting to tell at the same time [101].

This lack of candidness, in combination with professionals not actively obtaining a sexual history and risk assessment, entails a risk of missed opportunities for prevention and care.

Swedish youth clinics

Sweden has established approximately 300 youth clinics across the country, representing a potentially important setting for preventing sexual ill health in this population. Sweden is among the few countries where this type of youth-friendly health care service has been integrated within the public health system and sustained for a long time. Youth clinics have more

than 40 years of experience offering different services for adolescents and youth [102].

Youth clinics are highly accessible facilities for young people 13–25 years of age. Visits can be either pre-booked or spontaneous during drop-in hours and are in most cases free of charge. Services offered include counselling on sexual and reproductive health and a wide range of psychosocial health concerns. Further, the clinics offer testing and treatment for STIs, pregnancy tests, and free or subsidized condoms and other contraceptives. Staff composition varies, but generally includes midwives, social counsellors or psychologists, and physicians. Approximately 85% of the visitors are female and the most common reasons for visiting relate to STIs, contraceptives and counselling [103,104].

To a large extent, both youth clinic staff and visitors regard Swedish youth clinics to be youth-friendly as defined by the WHO, that is, accessible, acceptable, equitable, appropriate, and effective for different youth sub-populations [102,105]. The young people's perception of youth friendliness was favourable regardless of gender. However, younger visitors; users who did not categorize themselves as either heterosexual, homosexual, or bisexual; users with trans experiences; and users with non-Swedish backgrounds gave youth clinics lower scores for certain domains [105]. The professionals also acknowledged challenges regarding equitable access to different youth sub-populations. In addition, they recognized a need for improvements concerning monitoring routines, and ensuring training and competence for all professionals, independently of the location and characteristics of the clinic [102].

To summarize, Swedish youth clinics do not reach all young people, but they have great potential to prevent sexual ill health among their visitors.

Rationale for the thesis

Different manifestations of sexual ill health tend to be interrelated, often sharing the same risk factors. This makes sub-groups of youth more exposed. Early detection of individuals exposed to or at risk of sexual ill health is crucial, not only for effective prevention and care but also for equitable care [1]. To improve the sexual health of young people, we need to address multiple and nested risk factors and have a more comprehensive understanding of how different vulnerabilities and risk-taking expose young people to sexual ill health.

The chlamydia incidence rates remain high in Sweden despite preventive efforts, and the evidence base for effective STI prevention is limited [11]. One way of improving preventive strategies is by increased

knowledge of how we can identify youth at most risk of contracting chlamydia. There is a need for research on the impact of a broader set of behaviours and experiences possibly affecting the risk of chlamydia in Swedish youth, and further, how youth at risk of chlamydia can be identified.

Swedish youth clinics have lacked a systematic approach to identifying visitors at risk of sexual ill health in terms of STIs, unintended pregnancies and sexual violence. Despite readily available evidence of risk factors, no evidence-informed and comprehensive yet brief clinical assessment tool aiming to identify youth at risk of STIs, unintended pregnancies and sexual violence in a clinical setting, has been found in the scientific literature. For a tool to be of clinical utility and be research based, research on risk factors alone is not enough; the incorporation of professional expertise and patients' preferences is equally important.

Addressing the aforementioned knowledge gaps is a first step in striving to improve the prevention of sexual ill health among young people. This can be achieved through the development of evidence-based methods for identifying youth who are exposed to, or at risk of, sexual ill health. The research may also contribute towards more equitable sexual health care and increased attention on disproportionately burdened groups.

AIM OF THE THESIS

The overall aim of the thesis was to generate new knowledge concerning how Swedish youth clinics can work systematically to identify young people at risk of sexual ill health or who have negative sexual experiences.

The aim was addressed in four studies with the following objectives:

- I. To develop a risk-assessment model for the identification of youth most at risk of contracting chlamydia.
- II. To develop and pilot-implement an evidence-informed toolkit (SEXual health Identification Tool; SEXIT) for identifying young people exposed to or at risk of sexual ill health in terms of STIs, unintended pregnancy, experiences of transactional sex or sexual violence at Swedish youth clinics. The aim was also to describe the outcomes of the assessment and investigate its potential to identify visitors in need of special care and monitoring.
- III. To explore youth clinic visitors' experiences of systematic assessment of sexual ill health and risk-taking using SEXIT, and specifically of filling out the SEXIT questionnaire.
- IV. To explore experiences of using SEXIT among youth clinic staff who participated in the pilot implementation, with a focus on usefulness, implementation determinants, and feasibility of implementing SEXIT at Swedish youth clinics.

THEORETICAL APPROACHES

This chapter presents the theoretical approaches used in the thesis, consisting of concepts, theories, and perspectives of relevance for understanding and explaining the findings of the studies. Prevention and health promotion are central aspects of SRHR and the core of public health, and evidence-based practice is an essential perspective in modern medicine. The implementation science approaches used in the thesis to guide and understand the process of translating research into practice are presented.

Prevention and health promotion

All the studies of the thesis relate to the prevention of ill health. Prevention is defined as keeping people away from unwanted events, such as diseases, physical damage, and social problems [106,107]. Prevention activities are typically classified into the following three categories:

1. Primary prevention—intervening before health effects occur, through measures such as vaccinations, altering risky behaviours, and banning substances known to be associated with a disease or health condition.
2. Secondary prevention—screening to identify diseases at the earliest stages when this improves the chances for positive health outcomes.
3. Tertiary prevention—managing disease after diagnosis to slow or stop disease progression and restore health.

Health promotion and prevention share many goals, but rather than focusing on preventing ill health, health promotion is defined as the process of empowering people to increase control over their health and to increase healthy behaviours [107].

Health promotion and disease prevention interventions often address social determinants of health, which influence modifiable risk behaviours. Social determinants of health are the economic, social, cultural, and political conditions in which people live that affect health status. Modifiable risk behaviours include, for example, alcohol and drug use and non-use of condoms, which contribute to the development of disease or ill health [107]. Social determinants of health need to be acknowledged when developing public health interventions regarding SRHR, especially for vulnerable young people [108]. Studies II–IV in this thesis describe the development and use of the SEXual health Identification Tool (SEXIT).

Using SEXIT can be regarded as both primary and secondary prevention because it both targets risk behaviours and manifested ill health.

Intersectional public health work

When recognizing SRHR as fundamental to people's health and an integrated part of public health, combating health inequities inevitably becomes a priority. This thesis aims to reduce SRHR disparities by advancing knowledge and to develop evidence-based methods of working with vulnerable and sexually risk-taking youth.

The concept intersectionality provides an analytical framework in the study of health inequities [109]. Developed in 1989 by law professor, Kimberlé Williams Crenshaw, intersectionality aims to identify how interlocking systems of power affect those who are most marginalized in society [110]. Examples of these social categorizations include gender, race, class, sexuality, religion, and disability. An intersectional analysis considers all the factors that apply to an individual in combination, rather than considering each factor in isolation, resulting in a multiplicative effect of inequalities or advantages. For example, LGBT youth generally demonstrate poorer health outcomes compared with cisgendered¹ heterosexual youth, but LGBT youth who also belong to ethnic minorities often have even poorer health outcomes, particularly relating to substance use, sexual risk behaviours, physical/sexual violence, and suicide [111]. The intersectional perspective has gained attention in public health work in recent years helping us understand health disparities and develop comprehensive interventions that are sensitive to the multiple identities and different conditions people at risk live by [109,112-114].

However, intersectionality has not explicitly been a guiding framework in the individual studies of this thesis. The idea of a holistic approach to sexual ill health and risk-taking to enable the identification of the most vulnerable visitors in marginalized positions has been an underlying motive of the studies. The concept of intersectionality elucidates that an individual can simultaneously experience multiple disadvantaged positions, which partially explains the vulnerabilities and inequities that SEXIT seeks to identify. SEXIT has been developed to account for what is known about how these positions influence sexual risk factors and the concept is further used to discuss the results.

¹ A cisgender person is a person whose sense of personal identity and gender corresponds with their sex assigned at birth.

Evidence-based practice

The concept of evidence-based practice (EBP) has evolved from its medicine-focused origins as evidence-based medicine (EBM), which was introduced in the early 1990s as a new approach to teaching medicine [115]. The concept of EBM promoted the replacement of anecdotal evidence or intuition with research evidence as a basis for clinical decision-making. The evidence-based movement popularized the notion that research findings and research-supported interventions and programmes should be more widely implemented and used in various settings to achieve improved patient and population health.

The following definition of EBM is widely cited [115, p. 71]:

Evidence-based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.

The wider concept of EBP was defined by the same authors [115, p. 71] as

... integrating individual clinical expertise with the best available external clinical evidence from systematic research

... thoughtful identification and compassionate use of individual patients' predicaments, rights, and preferences in making clinical decisions about their care.

Hence, the definition of EBP implies a triad of knowledge sources for clinical decision-making: research evidence, clinical expertise, and patients' preferences. There is broad recognition among researchers and clinicians that research evidence must be interpreted and adapted to individual patients; to do so, the clinician's experience-based expertise is needed.

Within the field of SRHR, and more specifically the identification of youth at risk of sexual ill health, there are few existing evidence-based practices available [11]. It has been suggested that Swedish youth clinics need to develop both organizational routines and interventions to succeed with their preventive work [116,117]. This thesis aims to contribute knowledge and build such evidence and was therefore designed to account for the three knowledge sources of EBP.

Implementation science

Studies II–IV in this thesis can be considered implementation science studies. The field of implementation science is usually described as the scientific study of methods (often referred to as strategies) to promote the systematic uptake of research findings and other EBPs into routine practice

to improve the quality and effectiveness of health services and care [118]. Implementation science aims to understand and explain how and why implementation succeeds or fails, identifying factors that predict the likelihood of implementation success, and develop knowledge that can provide the basis for improved strategies to achieve more successful implementation [119].

So-called process models in implementation science are used to describe and/or guide the process of translating research into practice [119]. The pilot implementation in Study II was guided by the process model Quality Implementation Framework (QIF) [120]. The QIF is a synthesis of 25 different implementation models, frameworks and theories, focusing on specific activities identified as important for a successful implementation. The framework identifies 14 critical steps divided into four phases: initial considerations regarding the host setting, creating a structure for implementation, ongoing structure once implementation begins, and improving future applications. QIF was used in both the thesis project and in the parallel development project (see p. 66).

Studies III and IV serve to provide knowledge on barriers and facilitators for successful implementation and experiences of the tool from both staff and visitors, that is, learning from experience, the last step in the QIF. Besides guiding the pilot implementation, the QIF is used to analyse the implementation retrospectively.

A few other concepts and theories often used in implementation science were also applied in this thesis to investigate and discuss implementation success. Rogers' innovation attributes are part of his theory Diffusion of Innovations (DoI), popularized in his book with the same name, first published in 1962 [121]. The DoI is a theory that seeks to understand and explain how, why, and at what rate innovations spread and are adopted. An innovation in Rogers' DoI is "any idea, practice or object that is perceived as new by an individual or another unit of adoption" [121, p. 12]. This means that SEXIT can be considered an innovation. The theory posits that various perceived attributes (i.e. characteristics) of an innovation affect the rate of adoption. Innovations that are perceived by individuals as having greater relative advantage, compatibility, trialability, observability, and less complexity will be adopted more rapidly than other innovations [121]. Relative advantage refers to the degree to which an innovation is perceived as being better than the former way of doing things. Compatibility is the degree to which an innovation fits with the existing values, past experiences, and needs of potential users. Trialability is the degree to which an innovation may be tried before being fully implemented. Observability refers to whether the results of an innovation are visible to the users. And finally, complexity refers to how difficult an innovation is to understand and use.

Roger's innovation attributes are also the theoretical basis for some of Proctor and colleagues' implementation outcomes [122]. To improve measurement of successful implementation, Proctor et al. presented eight types of implementation outcomes, four of which were relevant for a pilot implementation (Studies II–IV): acceptability; adoption; appropriateness; and feasibility. The implementation outcomes functions as indicators of implementation success, as proximal indicators of implementation processes and key intermediate outcomes in research on clinical outcomes or service outcomes [122]. Acceptability refers to the perception among implementation stakeholders (providers, consumers) that a given innovation is agreeable or satisfactory. Adoption is defined as the intention or action to try an innovation. Appropriateness is the perceived fit of the innovation for a given practice setting, provider, or consumer; and/or the perceived fit of the innovation to address a particular problem. Feasibility is the extent to which an innovation can be successfully used within a given setting. Feasibility is often limited by resource requirements [122].

METHODS

This chapter first presents an overview of the four studies and then describes the quantitative and qualitative methods used in the individual studies.

Study design

This thesis has a mixed methods research approach using the triangulation design–convergence model as described by Creswell [123]. The purpose of this design is to obtain different but complementary data on the same topic to best understand the research problem, as well as to bring together the different strengths and weaknesses of quantitative and qualitative methods. The design is suitable for the thesis because data are collected in a single phase (Studies II–IV), both types of data are given equal emphasis, and the results are converged during the interpretation [123].

The different studies of the thesis are closely linked. The first study examined variables related to chlamydia and built a model to identify youth at risk. The second study focused on how research results from the first study, as well as from other sources, could be translated into clinical practice through development and pilot testing of a new tool. The third study explored how this practice was perceived by young people consulting the youth clinics, and the fourth study explored the youth clinic staff's perspective on working with this new tool (Figure 1). Youth clinic staff refer to the people visiting them as “visitors”, not as “patients”, and the same terminology is used in this thesis.

Figure 1. Progression of the research and overview of the studies.

Table 1. Overview of aims and methods used in the studies included in the thesis.

	Study I	Study II	Study III	Study IV
Aims	To develop a risk-assessment model for the identification of youth most at risk of contracting chlamydia	To develop and pilot-implement an evidence-informed toolkit for identifying young people exposed to or at risk of sexual ill health at Swedish youth clinics, and to investigate its potential to identify young people in need of special care and monitoring	To explore youth clinic visitors' experiences of systematic assessment of sexual ill health and risk-taking using SEXIT, and specifically of filling out the SEXIT questionnaire	To explore experiences of using SEXIT among youth clinic staff who participated in the pilot implementation, with a focus on usefulness, implementation determinants, and feasibility of implementing SEXIT at Swedish youth clinics
Study design	Cross-sectional study (UngKAB09)	Questionnaire development, validation, and pilot implementation study	Qualitative, explorative interview study	Qualitative, explorative focus group study
Participants and setting	A national sample of sexually active young people, aged 15–24 years ($n=6544$)	Three youth clinics in Region Västra Götaland, including visitors for 1 month ($n=268$) and staff ($n=18$)	A purposive sample of youth clinic visitors recruited from the three participating pilot clinics ($n=20$)	Youth clinic staff from the three participating pilot clinics ($n=16$)
Procedures and measures	A web-based questionnaire on sexuality with self-selected participants from different Internet communities (UngKAB09)	A questionnaire was developed and validated (SEXIT). Pilot implementation at three youth clinics for 1 month. Staff readiness and youth clinic visitors' responses were analysed	Individual, semi-structured interviews	Four semi-structured focus group discussions
Data collection	2009	2016	2016	2016
Data analysis	Descriptive statistics and multivariable logistic regression analysis. Discriminative power was measured by receiver operating characteristic curve analysis. The 3-year probability of chlamydia was calculated	Descriptive statistics. Pearson's χ^2 test and Fisher's exact test for gender differences. Risk factors associated with sexual ill health were dichotomized and compiled in a SEXIT index. The number of risk factors were summarized for every individual to present the total risk of sexual ill health	Qualitative content analysis with inductive approach	Qualitative analysis developed for focus group discussions

Participants and setting

In **Study I**, data from the national UngKAB09 study were used. UngKAB09 was performed in 2009 by the University of Gothenburg, with the overall aim of exploring knowledge, attitudes and sexual experiences among young people (15–29 years of age) [12]. It was conducted with a mixed mode design: a representative sample of the general population in Sweden and a self-selected sample from online communities. The use of an internet survey was an attempt to overcome the problem of decreasing response rates using traditional research methods. In total, 15,278 youths participated in the study, but only 24% of those in the representative sample. Comparisons of the two samples demonstrated that those replying to the survey online were somewhat more sexually experienced than people in the representative sample. The sample used for Study I was a sub-selection of the self-selected sample, consisting of 3432 (52.4%) women and 3112 (47.6%) men aged 15–24 years. All participants in this study were sexually active, as defined by the stated experience of one or several different sexual penetrative or nonpenetrative practices.

In **Studies II–IV**, the empirical context was youth clinics in Västra Götaland, Sweden, a geographic region in western Sweden with 1.7 million inhabitants receiving care from the county council (Region Västra Götaland). At the time of data collection, there were 54 youth clinics in the region, covering a mix of urban and rural areas.

In **Study II**, a purposeful sample of three youth clinics was selected for the pilot implementation. The selection was based on the location, size and focus of the clinics, with the aim of representing diversity among the visitors and clinics [124]. One clinic specialized in risk-taking and exposed youth, one was large and urban (one of six clinics in Gothenburg, a city with 600,000 inhabitants) and the third was smaller and rural (the only clinic in a city with 23,000 inhabitants).

Managers and all first-line healthcare staff (midwives, registered nurses, counsellors and psychologists) at the participating clinics were included in the study ($n=18$). Physicians were not included because visits to physicians are rare and are only booked following an assessment by other staff.

In addition to the healthcare staff, all youth clinic visitors were invited to participate, regardless of whether the visit was booked, occurred during drop-in hours or was an emergency visit. Only visitors aged 15 years or older and who understood Swedish were included. In total, 268 visitors aged 15–24 years participated (response rate 86%). The inclusion process of the visitors in Study II is shown in Figure 2.

Figure 2. Overview of the inclusion process of youth clinic visitors in Study II.

In **Study III**, 20 youth clinic visitors aged 15–24 years who had consulted one of the participating youth clinics and had answered the SEXIT assessment tool during that visit participated. A purposeful sampling strategy was chosen to ensure maximum variation in gender, age and type of clinic visited [124].

In **Study IV**, first-line healthcare staff working at one of the participating youth clinics who had been using SEXIT for 1 month were recruited. In total, 17 staff were eligible and 16 participated. All participants were women aged between 31 and 63 years. Most were midwives ($n=9$), but there were also nurses ($n=2$), psychologists ($n=3$) and social counsellors ($n=2$).

Procedures and measures

Study I

In Study I, data from the national UngKAB09 study [12] on sexual health among Swedish youth were used. The self-selected sample was recruited by using banners and mailing lists on 14 different Internet communities. A panel of adolescents aged 18–19 years assisted the researchers in identifying and selecting suitable communities and provided advice on how

to communicate with potential respondents within these communities. When clicking on the banner, the potential respondent was redirected to the study's homepage (www.ungkab.se). The homepage gave information about the study and a contest for the respondents when the questionnaire was completed. The data material was obtained from the principal investigator, Ronny Tikkanen, who was also a co-author in Study I. The questionnaire contained 63 items on knowledge, attitudes and experiences concerning sexuality and socio-demographic information [106]. For Study I, self-reported chlamydia during the past 12 months was chosen as the dependent variable, and a total of 24 items were used for the analysis. The items included background variables, Rosenberg's Self-esteem Scale, and a range of variables related to sexual risk-taking. Gender was self-defined and assessed with an open question.

Study II

In Study II, a new tool named SEXIT (SEXual health Identification Tool) was developed and tested in a pilot implementation. SEXIT is an assessment tool for use at Swedish youth clinics, developed to facilitate identification by staff of young people exposed to or at risk of sexual ill health in terms of STIs, unintended pregnancies and sexual violence. The tool includes three components: (1) staff training; (2) a questionnaire for youth clinic visitors; and (3) a written guide for staff to support the dialogue and risk assessment that followed after the questionnaire had been completed.

Questionnaire development and validation

The SEXIT questionnaire was developed to enable systematic assessment of sexual risk-taking and sexual ill health among youth clinic visitors. It was intentionally kept short to enable use during brief visits and adapted to be user-friendly from the perspectives of both staff and visitors. The questionnaire is primarily a conversational tool; the clinical conversation is an integral part of SEXIT and fundamental for making the risk assessment. When possible, items from previously validated questionnaires were used [12,125,126]. An expert panel assisted in the development. The panel consisted of a specialist in infectious diseases, a youth clinic development manager, an STI coordinator, and two midwives with competence in sexology. The topics covered in the questionnaire were selected based on risk factors identified in the literature, combined with clinical experience.

Content validity was established in consensus discussions by the expert panel members. The first draft of the questionnaire was analysed to determine whether it was sufficiently comprehensive to cover the most

important aspects of sexual ill health and risk-taking and ensure that it contained no irrelevant items.

Face validity of the questionnaire was tested in three focus groups of 15 adolescents and young adults of mixed gender divided by age: 15–17 years, 18–20 years and 21–24 years. These groups completed an early version of the questionnaire and commented on readability, comprehensiveness, perceived relevance of the items, completion time and reluctance to answer any of the questions. The test resulted in minor revisions of the introduction to the questions and provided useful information on the preferred way to complete the questionnaire.

The questionnaire was given the name SEXual health Identification Tool (SEXIT), analogous to the widely used risk-assessment tools used for alcohol use (Alcohol Use Disorder Identification Test; AUDIT) [125] and drug use (Drug Use Disorder Identification Test; DUDIT) [127]. Unlike AUDIT and DUDIT, SEXIT is primarily a conversational tool and does not provide an individual score. For publication of Study II, SEXIT was translated into English in a forward–backward translation process [128].

SEXIT items

The final questionnaire comprises 16 items with fixed response options. See SEXIT questionnaire, version 1.0 in the Appendix. The first items provide background information about the visitor (age, gender and sexual orientation) that can affect the estimation of the remaining questions [39,61,129]. One item concerning living arrangements was included based on sexual health risks among youth in the care of the state [96]. Three items concern alcohol and drug use: behaviours with a complex but well-established association with sexual risk-taking and ill health [39,60,96,130–132]. Inclusion was further motivated by convenience for the youth clinic staff, who are already advised to ask about alcohol and drug use. Two items, age at sexual debut [45,133,134] and number of sexual partners [39,135,136], were included based on their association with sexual risk-taking, transactional sex, sexual violence and STIs.

One item concerning experience of first-date sex was included to prompt a clinical conversation about related risks, such as non-use of condoms, and unwanted sexual experiences. First-date sex reduces the possibility of knowing whether the partner has been tested for STIs, and unprotected sex with a new or unknown partner has been associated with chlamydia [135] and other related factors: alcohol use [132], drug use, early sexual debut, multiple sexual partners, and sex against one's will [12].

Two items concerning chlamydia [40,137,138] and unintended pregnancy [60,139] capture previous risk-taking and serve as possible markers of future risk-taking and ill health. Because no item was found in

the research literature on unintended pregnancy regardless of gender, item 12 was constructed for this questionnaire.

Four items concern experiences of transactional sex and sexual violence [42,59,74,140,141]. Item 16 was formulated for this questionnaire to initiate a discussion on sexually coercive behaviour, [43]. The final item contains three statements about the experience of answering the questionnaire using a five-point Likert-type scale [12]. There is no personal identifier on the questionnaire.

Implementation

The pilot implementation was supported by the QIF [120]. The so-called “critical steps” in this framework include needs, fit and readiness assessments, obtaining stakeholder buy-in, providing staff training and ongoing technical assistance, process evaluation, and learning from experience. All critical steps were performed in the pilot implementation albeit in a pragmatic way. Minor adjustments were made to better fit the project; for example, the initial steps of making a fit assessment and adaptations of the innovation were incorporated in the development of SEXIT.

SEXIT training and written guide

All staff at the three youth clinics ($n=18$) attended a 6-hour training session on SEXIT 1 week before initiating the use of the questionnaire with visitors. The training had several aims: to increase knowledge of sexual ill health and how SEXIT is used, to motivate staff to use SEXIT, and to facilitate the implementation by clearly explaining the clinical routines as well as the implementation plan and available support. Core components of training included the latest research on youth at risk of sexual ill health and on the management of visitors, including follow-up questions needed for a full patient history and recommended actions when sexual risks or ill health are identified. The training was developed and delivered by the PhD candidate, an infectious disease specialist, and a midwife working with sexually risk-taking and vulnerable youth. The training used lectures, group assignments and role play to promote active engagement and mutual learning through dialogue among the participants and instructors. During the training, the PhD candidate clearly communicated the wish for active participation and feedback from the participants, both during the training and the forthcoming implementation. See Content of SEXIT training, version 1.0 in the Appendix.

Based on the needs assessment and to further support the clinics in using the questionnaire, a written SEXIT guide was developed as the final SEXIT component. The guide was constructed by the PhD candidate, the

infectious disease specialist, and the midwife working with sexually risk-taking and vulnerable youth; the guide was then revised by the expert panel. The guide was built chronologically around the questionnaire and explained which answers indicate risk of ill health for every item, and suggested follow-up questions to ask and recommendations for actions based on the SEXIT assessment. During the staff training, the guide was further elaborated upon together with the clinics to make sure that it suited their conditions (e.g. different local routines, health care partners and support groups). See SEXIT written guide, version 1.0 in the Appendix.

Staff readiness assessment

As part of a pre-implementation assessment of needs, resources and fit of the innovation, the youth clinic staff's readiness for change was assessed at the end of the training session. The assessment included ten items with Likert-type scale response options and was constructed by the PhD candidate inspired by the theory of organizational readiness for change [142]. The items capture four implementation outcomes as defined by Proctor et al. [122] – acceptability, adoption, appropriateness, and feasibility – which, together with other implementation outcomes, indicate whether implementation is likely to succeed. See SEXIT Readiness assessment in the Appendix.

Assessment of youth clinic visitors' sexual health

The 1-month data collection started 4 days after the training session. Posters in the waiting room notified visitors that the clinic was participating in a research project aimed at improving the clinic's work on sexual health and that all visitors would be informed and asked to participate by a member of the staff.

Participants completed the SEXIT questionnaire on their own in the consulting room. The youth clinic staff then reviewed the answers with the visitor and posed follow-up questions. Based on SEXIT, the subsequent conversation and a full patient history, the youth clinic staff made the assessment. This process could be either short (during drop-in hours) or part of a longer conversation about the visitor's sexual health. Every SEXIT item has recommended actions in the written guide; some items have the same recommended actions, but generally; the more behaviours connected to risk of sexual ill health that an individual demonstrates, the more active actions are recommended. Time and resources at the clinics determined whether actions were taken immediately, or whether a new visit was planned for further follow-up. If necessary, another youth clinic staff was booked for the follow-up; for example, a midwife to test for STIs or a counsellor to follow up reported experiences of sexual violence

victimization. The use of SEXIT does not rule out other existing routines; for example, offering an STI test for visitors asking for contraceptives.

Study III

In Study III, data were collected by means of individual semi-structured interviews. The interviews were conducted within 1 month after the respondents' youth clinic visit when SEXIT was used. All interviews were conducted by the PhD candidate at a venue other than the youth clinics. The interviews lasted approximately 30–40 minutes and were audio-recorded and transcribed verbatim by a transcription service. The participants received compensation for travel expenses as well as a movie ticket.

The interviews were semi-structured and followed an interview guide focusing on experiences of the visit, the SEXIT questionnaire, the care provided, and the youth clinic staff's attitudes. The questions were open-ended and probing follow-up questions were used to obtain rich answers [143]. The interview guide was tested in two pilot interviews, which resulted in minor revisions.

Eight key questions were used in the final interviews:

- What is your overall experience of your last visit at the clinic?
- Can you describe what it was like to fill out the SEXIT questionnaire?
- What is your view on the specific questions?
- Can you describe what it was like to discuss your answers with the youth clinic staff?
- How was the attitude and response of the youth clinic staff?
- Can you reflect on the care or support you received?
- How did the SEXIT questionnaire affect the information the clinic received about you?

Study IV

In Study IV, data were collected in 2016 through focus group discussions with healthcare staff, conducted within 3 weeks after the completed pilot implementation of SEXIT. Four focus groups were held with three to five participants in each. Each discussion lasted approximately 2 hours and was audio-recorded. All focus group discussions were conducted by the PhD candidate and an experienced co-researcher, taking turns acting as moderator and observer.

An interview guide with five key questions was used in the discussions:

- What are your experiences of SEXIT as a method for identifying sexually risk-taking visitors at the clinic?
- What was your work process like when using SEXIT compared with when not using SEXIT?
- How do you experience the youth clinics' ability to care for visitors identified as sexually risk-taking when using SEXIT?
- What factors do you believe have influenced your use of SEXIT?
- How would you like to develop SEXIT for the future?

The participants were encouraged to engage in discussions and to present alternative views. The moderator guided the discussions using the key questions, and only interfered when the discussion veered off topic or if follow-up questions were needed. The observer took field notes and the team debriefed and compared notes immediately after the session. The recordings were transcribed verbatim by a transcription service, and the PhD candidate verified the transcripts.

Data analysis

Statistical analyses

In **Study I**, gender differences in the variables were analysed with Pearson's chi-squared tests. Possible associations between the dependent and independent variables were evaluated using Pitman's non-parametric test for correlation. A statistical significance level of $p < 0.05$ was required for a variable to be included in the multivariable analysis. A logistic regression model, forward stepwise selection, was applied with self-reported chlamydia in the past 12 months as the dependent variable. The final model included piecewise linear functions of age and number of partners. The change in risk could thus be different for different intervals of the range of the variable. Results were presented as odds ratios (ORs) with 95% confidence intervals (CIs) and corresponding p value. The discriminative power of the model was assessed with receiver operating characteristic (ROC) curve analysis [144].

The 3-year probability of contracting chlamydia was calculated under the assumption of a constant hazard function. The proportion of individuals above different cut-off points in the 3-year probability of chlamydia was calculated. The calculation utilized the variables and the coefficients determined in the logistic regression. The statistical analyses were mainly performed in IBM SPSS (Statistical Package for the Social Sciences) version 19.0 (IBM, Armonk, NY).

In **Study II**, descriptive statistics with frequencies of agreement with various statements were used to examine staff responses to the readiness

assessment. Items with responses on 3- and 5-point scales were dichotomized.

Analysis of the youth clinic visitors' assessment data was performed in two stages. First, means, frequencies and percentages, grouped by gender, were analysed using descriptive statistics. Gender differences in the categorical variables were analysed using Pearson's chi-squared test and Fisher's exact test. Transgender, non-binary and other gender participants were excluded from the gender analysis due to small numbers.

Second, 11 dichotomized risk variables were constructed (items 5–9 and 11–16). Counting an individual SEXIT score is not part of the process when using SEXIT for a clinical assessment, but for analytical purposes, the variables were compiled in an index and the number of risk factors was calculated to present an estimate of the total risk of sexual ill health for every respondent. Items 1–4 (age, gender, sexual orientation and living arrangements) were not included because they demonstrate groups with a statistical overrepresentation in risk assessments rather than individual risk exposure [39,61,89,96,129].

Alcohol use at least two to four times per month, cannabis use at least once in the past year, and use of other illegal drugs at least once in the past year were considered to have a possible negative impact on sexual health. Item 10 (first-date sex) was not included in the index because evidence is lacking that this behaviour is an established risk factor for STIs, unintended pregnancy or sexual violence.

Having three or more sexual partners in the past year was considered to confer an increased risk of STI [135]. The items of chlamydia, unintended pregnancy, experience of transactional sex and sex against one's will, that is, past, or current sexual ill health, were also considered risk variables that increased the likelihood of repeated exposure in the future. The response option "Don't know" for the items on chlamydia and pregnancy was considered to demonstrate risk-taking and was therefore merged with those answering yes to these items. The statistical analyses were performed using IBM SPSS, version 22.0 (IBM, Armonk, NY).

Qualitative analyses

In **Study III**, interview data were analysed using inductive qualitative content analysis as described by Graneheim and Lundman [145]. The analysis focused on both the manifest content (i.e. the description of the explicit and obvious content) and the latent content (i.e. an interpretation of the underlying meaning(s) of the text). The inductive analysis began with immersion in the specifics of the text (i.e. the participants' own stories) to discover patterns, themes and interrelationships [124]. The analysis moved from the data to a theoretical understanding; from the concrete and specific

to the abstract and general [145]. The PhD candidate performed the analysis in close collaboration with all co-authors. The identities of the participants were hidden to the authors other than the PhD candidate.

First, all transcripts were read thoroughly several times to achieve a sense of the whole. The transcribed interview was the unit of analysis. The texts were divided into meaning units; that is, several words, sentences, or paragraphs that related to each other and addressed the research questions. Each meaning unit was condensed and labelled with a code. Two interviews were coded separately by the PhD candidate and two of the co-authors and compared to achieve consensus.

The next step was to search for similarities, patterns and relationships within the codes, and to sort them into sub-categories and categories. This process involved moving back and forth between parts of the text and the whole. The categories represent the manifest content. During the analytical process, underlying meanings in the text were identified and formulated into an overarching theme (i.e. the latent content). All authors took part in the creation and naming of the categories and themes. Concepts close to the text were sought when naming the codes and categories. Quotations from the interviews were used to provide illustrative examples of the meaning of the categories.

In **Study IV**, the focus group discussions were analysed inductively using Krueger and Casey's analysis guide for focus groups [146]. The PhD candidate led the analysis in close collaboration with the co-authors. The analysis started during the debriefing meetings after each session. After the data gathering was completed, all transcripts were read thoroughly, and the recordings were listened to again to achieve a sense of the whole. Then, by working through the transcripts, all parts of the texts that addressed the research questions were labelled with codes describing the content. Parts with similar content were given the same code. The first transcript was coded separately by three authors and compared to achieve consensus.

In analysing the focus groups, the shared understanding of the research topic is of interest. Therefore, the analysis was based on the content of the discussions, rather than the participants' individual statements. This also entails considering how the participants talked to each other (e.g. participants showing ambiguity, changing their minds or dominating the discussion) [147].

The codes were reviewed and sorted into preliminary categories based on similarities and patterns within the codes. The categories were refined in consensus discussions among the authors and a summary was written for each category. Emphasis was put on quotes that were extensive (i.e. expressed by several people in several sessions), but also on experiences that were described with emphasis or in detail [146]. In the last step of the

analysis, two themes cutting across the categories were identified and the results were presented around these themes [146]. Quotes capturing the essence of what was said illustrate the categories.

In both qualitative studies, organization of the data and the process of coding were facilitated using NVivo 12 software (QSR International Pty Ltd., Melbourne, Australia).

Ethical considerations

All data in this thesis were managed in accordance with the Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects [148]. All participants were informed about the purpose of the research, the procedure, that participation was voluntary, and that only de-identified results would be presented and used in both organizational quality improvement and research. As all respondents were 15 years or older, active consent was not required from parents. According to Swedish law, people aged 15 years or older are considered able to make their own decision on whether or not to participate in surveys [148]. All studies were approved by the Regional Ethical Review Board in Gothenburg (Study I with reference nos. 342-09 and T 624-09, and Studies II–IV with reference no. 935-15).

In **Study I**, information about the study was provided on the study's website (www.ungkab.se) before the participants could continue to the digital questionnaire. Consent was given by the participants by answering and returning the digital questionnaire to the researchers.

In **Studies II–IV**, participants received written and oral information about the study and provided written consent before participating. They were also informed that their decision to participate or not would not affect their continued care. The participants in the qualitative studies (Studies III and IV) received the additional information that they could choose to withdraw at any time without explanation. They were assured that all characteristics that could potentially reveal their identity would be de-identified. The interviews were not particularly sensitive because the focus was on the use of the SEXIT tool and not on the participants' private life; therefore, the risk of harm was perceived as small.

The questionnaires in Studies I and II were filled out anonymously and responses could not be traced back to the respondents. All participants received contact details for help and support if needed after participation in the study. However, research indicates that sexually abused adolescents do not feel increased discomfort when answering questions concerning sexuality and sexual abuse [149].

Data from all studies are kept in a locked and fireproof safe and/or on access-controlled servers with high levels of security according to Region Västra Götaland data management guidelines. Data and the code list are stored separately. No unauthorized person has access to the material.

RESULTS

This chapter presents the results from the four studies in abbreviated form. The full, detailed results are reported in the individual papers.

Youth at risk of chlamydia (Study I)

The aim of Study I was to develop a risk-assessment model for the identification of youth most at risk of contracting chlamydia.

The sample comprised 3432 (52%) women and 3112 (48%) men aged 15–24 years. There were too few participants of other gender to include in the analysis. The study found that chlamydia during the past year was reported by 145 (4.4%) women and 80 (2.8%) men. In the univariate analysis, age and most of the variables related to sexual risk-taking, experience of sexual violence and having been reimbursed for sex were associated with chlamydia infection.

For women, the independent determinants of self-reported chlamydia in a multivariable logistic regression model were age, number of sexual partners during the past 12 months, and having been reimbursed for sex. The corresponding determinants for men were the number of sexual partners during the past 12 months and alcohol consumption. The number of sexual partners was the single most important determinant of self-reported chlamydia among both men and women. Every step between the four first ordinal categories (0–1/2–3/4–5/6–10 partners) more than doubled the likelihood of self-reported chlamydia in women (OR, 2.34; 95% CI, 1.96–2.79) and men (OR, 2.30; 95% CI, 1.82–2.89).

The performance of the regression model was measured by the area under the ROC curve, indicating very high accuracy [144]. Based on the regression model, a hazard function was constructed that enabled the calculation of the 3-year probability of chlamydia based on the prediction score for any individual above the cut-off points. We calculated that by focusing on a tenth of the population with the highest probability of chlamydia; 38% of the cases that will occur in the entire population can be identified.

Feasibility of using SEXIT at Swedish youth clinics (Study II)

The aim of Study II was to develop and pilot implement an evidence-informed tool (SEXIT) for identifying young people exposed to or at risk of sexual ill health in terms of STI, unintended pregnancy, transactional sex or sexual violence at Swedish youth clinics, and to investigate its potential to identify young people in need of special care and monitoring.

In total, 268 youth clinic visitors participated (response rate 85.6%). Respondents were 15–24 years of age (mean, 20.3 years; standard deviation (SD), 2.42); 225 (84%) identified themselves as women, 33 (12%) as men, and 10 (4%) as transgender, non-binary, or other gender. Most of the visits were booked in advance (73%), a fifth (21%) occurred during drop-in hours and 6% were unbooked emergency visits during regular opening hours. The visits were mainly to midwives (63%), followed by counsellors (17%), nurses (10%), and psychologists (10%).

Staff readiness

Before implementation, all staff ($n=18$) completed a staff readiness assessment: nine midwives, two registered nurses, three counsellors, three psychologists, and one non-clinical unit manager. All staff perceived a need for more systematic screening for sexual risk-taking and sexual ill health at youth clinics and rated the SEXIT procedure as acceptable, appropriate, and feasible, and that they were willing to try the SEXIT tool for this purpose (adoption). However, some staff (4/17) also responded that they expected the introduction of SEXIT to be time-consuming and/or difficult.

Acceptability of SEXIT among youth clinic visitors

Of the youth clinic visitors who were invited, 86% participated. The internal non-response rate for individual items was low (0.0%–1.9%). Most of the youth clinic visitors rated the SEXIT questions as important (87%) and few agreed that it was uncomfortable (7%) or difficult to answer the questions (8%).

SEXIT assessment outcomes

The youth clinic visitors who had never had sex ($n=11$, 4.1%) ended the questionnaire halfway through, but were assessed by the youth clinic staff in the same manner as the other participants. The respondents' age of sexual debut varied between 10 and 23 years (mean, 15.9 years; SD, 1.88). The respondents reported 0–20 sexual partners in the past 12 months

(mean, 3 partners; SD, 3.34). Reported risk factors for sexual ill health are presented in Table 2 for women, men and transgendered respondents.

Table 2. Reported risk factors for sexual ill health, by gender and frequency.

Women (n=225)	Men (n=33)	Transgender^a (n=10)
Alcohol use ≥ 2 times/month (48%)	≥ 3 sexual partners (53%)	Sex against will (60%)
≥ 3 sexual partners (39%)	Alcohol use ≥ 2 times/month (48%)	≥ 3 sexual partners (50%)
Sex against will (21%)	Cannabis use (24%)	Alcohol use ≥ 2 times/month (30%)
Early sexual initiation (20%)	Chlamydia (22%)	Early sexual initiation (20%)
Chlamydia (19%)	Early sexual initiation (22%)	Cannabis use (20%)
Cannabis use (16%)	Unintended pregnancy (13%)	Chlamydia (10%)
Unintended pregnancy (8%)	Other illegal drug use (9%)	Been sexually coercive (10%)
Other illegal drug use (5%)	Been sexually coercive (3%)	Unintended pregnancy (0%)
Been sexually coercive (2%)	Given reimbursement for sex (3%)	Other illegal drug use (0%)
Received reimbursement for sex (2%)	Sex against will (0%)	Given reimbursement for sex (0%)
Given reimbursement for sex (0%)	Received reimbursement for sex (0%)	Received reimbursement for sex (0%)

^aTransgender, non-binary and other.

The gender analyses were limited by small numbers of men and transgender participants in the sample and a low frequency in reporting some of the experiences, such as transactional sex. The only significant gender difference was that women reported more experience of sex against their will compared with men. Irrespective of gender, the five most common risk factors were alcohol use (48%), three or more sexual partners in the past year (41%), early sexual initiation (20%), sex against one's will (19%), and previous chlamydia infection (18%).

In summary, the youth clinic visitors reported 0–7 parallel risk factors out of 11 possible factors (Figure 3). Half of the visitors (49%) had no or one risk factor, one-third (36%) had two or three, and the remaining 15% had between four and seven risk factors. The youth clinic visitors with four or more risk factors more often made unbooked visits to the clinic during drop-in hours or as emergency visits (40%).

Figure 3. SEXIT index: risk factors associated with sexual ill health.

Young people’s perspective on SEXIT (Study III)

The aim of Study III was to explore youth clinic visitors’ experiences of systematic assessment of sexual ill health and risk-taking using SEXIT, and specifically of filling out the SEXIT questionnaire.

The analysis of the interviews yielded four main categories and 11 sub-categories, connected by the overarching theme *Ask me, listen to me, treat me well and I shall tell*. This descriptive theme was conceptualized to capture and describe the connections between the categories and the underlying meaning of the text.

In the first main category, *Issues of concern*, participants described experiencing that the questions in the questionnaire were highly relevant and of great importance to them. The participants acknowledged that the questions pinpointed common health problems among young people and that, although it concerned them, these questions were sometimes difficult to talk about. They suggested that the questions should be posed as often as possible, for example, in schools. Some participants experienced the questions as emotionally challenging because they triggered memories and feelings associated with negative experiences. However, other participants found the questions unproblematic.

In the second main category, *Enabling disclosure*, participants described experiencing the questionnaire as something that enabled them to disclose sensitive experiences that otherwise would have been unlikely

for them to talk about. The questionnaire was experienced as signalling interest and an invitation to talk. The participants also explained that the written format with specific questions as a basis for dialogue facilitated communication as opposed to verbally posing a very general question. The questionnaire made them talk about sensitive concerns, and they described it as a relief that they did not need to raise the issues themselves. SEXIT also promoted reflection among the participants on the multitude of experiences young people can face and how they were affected personally.

In the third main category, *Road to change*, participants reflected on the youth clinic visit with SEXIT as a whole, and how the use of the SEXIT questionnaire also affected other aspects of the visit. Being offered the questionnaire felt natural to most participants and some mentioned that it gained their trust in the youth clinic. In comparison with previous youth clinic visits without the questionnaire, the participants described a different encounter in which more and different topics were covered.

The participants described elaborating their answers in various ways, from some follow-up questions to a conversation or general discussion. Reviewing the answers with the youth clinic staff made the visitors feel like their responses were taken seriously. At the same time, discussing the answers could also be a moment of nervousness related to uncertainty of how the youth clinic staff would react, and a reluctance to talk about some of the answers. Still, the participants described mainly positive experiences of the help and support they had received from the youth clinic during their visit. Having the opportunity to discuss personal matters with a professional and receiving specific suggestions on how to handle problems was appreciated.

In the fourth main category, *Managing power imbalance*, the participants described emotional experiences and aspects of the visit that affected the power imbalance inherent in the patient–caregiver relationship. Knowing what SEXIT was, that the questionnaire was a routine procedure, and that it was voluntary to answer, instilled feelings of being safe and in control. The professional confidentiality and confidence in the youth clinic staff's professionalism were described as a precondition for disclosing troubling experiences. Some participants described feelings of insecurity about responding to sensitive questions and were afraid of being poorly treated or judged based on their answers.

Most participants were satisfied with the attitude and response they received from the youth clinic staff when they reviewed and elaborated on the SEXIT questionnaire together. Being able to reveal personal and socially undesirable behaviours without feeling judged, and being met with respect and understanding, seemed to be most important for the participants. Being met with respect was interpreted to be closely linked to feeling able to be honest.

Youth clinic staff's experiences of using SEXIT (Study IV)

The aim of Study IV was to explore experiences of using SEXIT among youth clinic staff who participated in the pilot implementation. The focus was on usefulness, implementation determinants, and feasibility of implementing SEXIT at Swedish youth clinics.

The analysis of the focus group interviews yielded two themes and four categories, which were represented in all focus groups. In the first theme, *SEXIT facilitates identification*, the participants described the training as good and they felt well prepared for using SEXIT. The written guide was appreciated, and the participants suggested that it could be developed into a more advanced handbook. Working with SEXIT had been professionally rewarding, through advancing their knowledge on sexual risk-taking, and the shared experience of using SEXIT resulted in more intra-professional dialogue and learning. Because SEXIT demanded that the clinical routines were clearly articulated, the project was also considered an intensive course in that it updated staff on local practices at the clinic.

The SEXIT routines were experienced as well functioning by most participants. Scanning through the questionnaire to find signs of risk was described as easy, but participants highlighted that posing the follow-up questions recommended in the written guide was important for making an accurate assessment. The participants described that they had not regularly posed the questions in SEXIT before. The routine of using SEXIT with all visitors made it easier to raise personal and straightforward questions on sensitive topics because the staff did not need to worry about coming across as judgemental for asking. Using SEXIT was described as a way to screen for needs and gain a comprehensive picture of the visitor. Working in a more structured way was perceived as increasing the quality of the care provided by enhancing consistency and lowering the risk that staff preconceptions about the visitor, or staff feeling stressed, would affect the care. This increased quality and consistency in care when using SEXIT were perceived as important facilitators for its implementation in routine practice.

There was consensus that visitors to the medical staff in general are more at risk for sexual ill health. Accordingly, the medical staff found that they identified more visitors in need of care with SEXIT, whereas the psychosocial staff did not have this experience. Regardless, SEXIT generated clinically valuable discussions, and all participants believed that the written format combined with routinely offering SEXIT would facilitate visitors in disclosing experiences when feeling ready.

In the second theme, *SEXIT requires structural changes*, the participants described structural barriers and discussed the need to make changes to better incorporate the tool into clinical routines; most importantly by integrating SEXIT into the medical record.

Using SEXIT could be both time-saving and time-consuming depending on the needs identified and the type of visit. Completing the questionnaire took less than 5 minutes, and participants explained that gathering the same information without SEXIT would have required far more time. However, when risks were identified through SEXIT, the time allocated for the visit was sometimes insufficient. This could make the consultation stressful, particularly during the drop-in visits.

The psychosocial staff, in contrast to the medical staff, expressed feeling ambivalent towards using SEXIT systematically. They acknowledged the benefits with systematic assessments, but at the same time they wanted to continue using an individualized approach. Some participants discussed that SEXIT could be a valuable tool when they suspected sexual ill health, rather than using it for every visitor; other participants opposed this view, arguing that the essential benefit of SEXIT derived from using it systematically with all visitors.

The participants experienced that during drop-in hours, visitors were more often stressed and declined to answer SEXIT, and that some visitors assessed as needing further care declined help or did not show up at the scheduled follow-up. According to the participants, that happens regularly with visitors who are risk-taking but not motivated to change behaviours or to receive care. Thus, such occurrences were not attributed to the use of SEXIT, but using SEXIT made this a more frequent and noticeable concern. Failing to provide care caused frustration and feelings of inadequacy. The participants perceived a lack of adequate strategies and resources as an important barrier and expressed a desire to develop new strategies and have more resources to work with this hard-to-reach and vulnerable group.

DISCUSSION OF THE RESULTS

In this chapter, the main findings of the studies are integrated, interpreted, and discussed in relation to other research and to the theoretical framework. The discussion is organized under the following headings: identification of sexual risk-taking, the design and routines of SEXIT, experiences of receiving and delivering SEXIT, and the pilot implementation.

Identification of sexual risk-taking

In Study I, a risk-assessment model for the prediction of self-reported chlamydia was developed from data on a large sample of sexually active Swedish youth. In line with findings from previous studies [78,150-152], a high number of sexual partners was the strongest risk factor for getting infected with chlamydia, with greater impact on its own than the other risk factors taken together. In addition, in women, age, and lifetime experience of exchanging sex for reimbursements were the best determinants. This is in accordance with a population-based study of high-school seniors in Sweden that reported associations between selling sex, coerced sex, and sexual risk behaviours [31]. In men, alcohol consumption on a weekly basis was a determinant for self-reported chlamydia. The association between problematic alcohol consumption and unprotected sex with multiple partners and STIs is supported by the findings of a systematic review, although a causal relationship cannot be determined [153].

A skewed distribution of chlamydia was demonstrated in Study I; 38% of cases were estimated to occur among the tenth of the population with the highest probability of getting infected with chlamydia. The model thus enabled identification of those most at risk for chlamydia with information on a limited number of individual factors. Prediction rules for the detection of chlamydia infection have previously been developed and validated in large population-based studies from the Netherlands [152] and Canada [78]. Similar to our model, young age and increasing number of sexual partners predicted chlamydia, but in contrast to our results, ethnicity [78,152] and no condom use at last sexual contact also had an impact [152]. Additional determinants, unaccounted for in Study I, were previous chlamydia infection [78], low level of education, and a new sex partner in the previous 2 months [152]. In clinic-based studies, symptoms of chlamydia have also been demonstrated as determinants [77,152,154].

To my knowledge, Study II is the first published study on a questionnaire developed to facilitate healthcare professionals'

identification of young people exposed to, or at risk of, sexual ill health, including STIs, unintended pregnancy, transactional sex and sexual violence. The youth clinic population in Study II demonstrated considerable variation in levels of sexual risk-taking and negative experiences of sexuality. Half of the visitors demonstrated no or one risk factor and about one-third demonstrated two or three risk factors. Most of those in the low- to medium-risk group had needs that could be addressed by regular youth clinic activities, such as counselling on preventing and testing for STIs, contraceptive counselling and motivational interviewing for alcohol and drug use. However, the visitors demonstrating between four and seven parallel risk-taking behaviours (15%) and/or experiences of sexual violence or sex for reimbursement need to be addressed more thoroughly. Repeated and multiple sexual risk-taking behaviours can be symptoms of more severe psychological distress, making it important to explore and address possible underlying mechanisms, such as traumatic events or violence victimization in order to improve sexual health [31,42,155]. To address the needs of the most vulnerable youth, the clinics need to collaborate with other healthcare specialties, social services, and local resources.

Apart from the individual risk factors, youth clinic staff also need to consider power structures that make some individuals more vulnerable. A strength of SEXIT is that, to some extent, it incorporates an intersectional perspective by accounting for age, gender identity, sexual orientation and social vulnerability through the item of experience of a foster family or institution placement [109]. Other power structures that might be important, such as ethnicity, religion and disability, are unaccounted for in the questionnaire. Similar to other studies, women stand out as being more exposed to sexual violence than men [2]. In Study II, 21% reported unwanted masturbation or oral/vaginal/anal sex. Although the transgendered group was small, their marked vulnerability in Study II confirm previous studies of transgendered people being particularly at risk [129]. Other disproportionally burdened groups that require extra attention are very young visitors and/or visitors with experience of living in a foster family or institution, because they represent vulnerable and disproportionally burdened groups [96,97].

Rates of specific exposures in Study II were comparable with those found in previous research in young people in Sweden: chlamydia [10,135], unintended pregnancy [10,42], sexual violence [10,42,56,135] and reimbursement for sex [10,31,135]. The finding of clustering of sexual risk-taking behaviours, violence exposure and outcomes, such as rates of STIs and unintended pregnancy, is in agreement with the results of both national and international studies [39,42,59].

In Study IV, some youth clinic staff had concerns about scaring away visitors who might find the questions judgemental. In contrast, a high response rate (86%), a low non-response rate for individual items (0.0%–1.9%), and youth clinic visitors' viewing the questions as important and not uncomfortable or difficult (Study II), all suggest that SEXIT can play an important role in the future sexual health care of young people. Furthermore, the interviews with youth clinic visitors (Study III) confirm this finding. This is in line with Swedish qualitative studies on routine inquiry about violence and alcohol consumption [83], and on young women's perceptions of being asked questions about sexuality and sexual abuse [156,157]. Those studies also found that questions on sexuality and violence are not only acceptable to, but explicitly requested by, young people when in contact with health care.

The results of this thesis can have an impact on prevention. It is now more evident than before that, if successful prevention of chlamydia could target the 10% most at risk, this would likely have an impact on the overall transmission (Study I). Based on Study II, we can assume that some of this group can be found among those identified through SEXIT as having several parallel risk factors. The results of the thesis thereby propose a possible preventive strategy that would enable the targeted prevention of those exposed to, or at risk of sexual ill health, that, if successful, could have an impact on young people's sexual and reproductive health.

The design and routines of SEXIT

The youth clinic visitors (Study III) expressed that structured questions in the written format served as an invitation to talk, facilitating communication and disclosure of sensitive experiences that would otherwise have been difficult for the participants to raise by themselves. These overall positive experiences are supported by the quantitative data from the SEXIT pilot implementation in Study II, showing that 87% of youth clinic visitors found the questions important, and not uncomfortable (93%) or difficult (92%) to answer. These findings support that SEXIT is considered acceptable and appropriate by the visitors; two important determinants for successful implementation described by Proctor et al. [122]. The same advantages of routine inquiry with explicit questions have been reported in other studies [83,157]. Also, other strategies, such as the *Sexual risk event history calendar* (structuring the conversation through themes, and helping the young person recall events through a timeline) [158,159], and using the mobile health app *Storytelling 4 Empowerment*, before the consultation [84], seem to have a similar effect of improving sexual health communication with adolescents.

From the professional perspective, the systematic use of a questionnaire as a basis for dialogue with all visitors was experienced as increasing the consistency and quality of the clinics' work (Study IV). The staff described that before using SEXIT, they did not assess visitors for risk factors in a systematic way, only when indicated. Unpublished data from the pilot implementation demonstrated that after 24% of the visits in which SEXIT had been used, the staff stated that its use had affected the outcome of the visit. For example, other topics were raised or risk-taking was discovered based on SEXIT. Among visitors with ≥ 4 risk factors, the corresponding figure was 64%, indicating a higher impact of SEXIT among vulnerable visitors. This is a crude proxy measure of the effect of SEXIT based on the staff's appraisal, but it still gives a hint of its usefulness. Other studies on alcohol, violence and STIs have also emphasized the importance of systematic approaches to assess health risks at youth clinics [75,116,160]. The findings in Study IV suggest that without supporting routines, staff's personal norms and values related to sexuality risk affect how and to whom questions on sexual health and risk-taking are raised. Making sure that gender stereotypes and other preconceptions about the visitor do not affect prevention and care is an important aspect of sexual and reproductive rights [1].

In the readiness assessment (Study II), staff answered that they felt prepared (18/18) on using SEXIT and confident (16/18) that they could make correct decisions about follow-up questions and actions based on the questionnaire. This result was also supported by the focus group discussions (Study IV) in which the training was described as good and sufficient, and the guide as a helpful support. However, they also said that the follow-up questions were important for the assessment and some suggested developing the guide into a more advanced handbook.

The medical and psychosocial staff's perceptions about SEXIT differed slightly, indicating a potential barrier for implementation (Study IV). Whereas nurses and midwives mostly saw advantages, the psychologists and social counsellors expressed ambivalence towards using SEXIT with all visitors, instead preferring a more individualized approach. This finding may be explained by different educational backgrounds and different professional practices. The results indicate that SEXIT is perceived as more complex by the psychosocial staff, and that it may have challenged their professional role. The use of SEXIT is not intended to replace a patient-centred approach and future implementation would likely benefit from tailoring and extending the training to better meet this ambivalence and create motivation among the users [161].

Time constraints due to heavy workload during drop-in hours was reported as a considerable barrier for using SEXIT. Yet, SEXIT was also perceived to facilitate work by saving time, compared with the

professionals raising all the issues without a support tool (Study IV). Study II demonstrated that 40% of the youth clinics' most vulnerable visitors (with ≥ 4 risk factors related to sexual ill health) came during drop-in hours or as emergency visits. This means that refraining from using SEXIT during drop-in hours would severely limit its clinical impact. This is an example of how SEXIT can affect adjacent routines at the clinic; using SEXIT demonstrated that youth visiting Swedish youth clinics during drop-in hours are disproportionally vulnerable, and if identifying youth at risk is a priority, the drop-in hours needs to be extended to enable the use of SEXIT. Through research on homeless youth, it is known that vulnerable youth face barriers accessing health care and drop-in is a well-used method of facilitating contact [162]. Because of the way SEXIT affects multiple routines, the implementation require organizational development, and ongoing interprofessional discussions at the clinic, to be successful.

Experiences of receiving and delivering SEXIT

In the qualitative studies, both visitors and youth clinic staff expressed generally positive experiences of talking about sexual health using SEXIT. Similar to the findings of other studies from the United States and Sweden [163,164], the youth clinic visitors interviewed (Study III) described that being treated with respect was essential for the outcome of the visit and was closely linked to their feeling able to be honest in their answers. Some youth clinic visitors expressed a fear of being judged; predominantly those who described their own sexual experiences as negative or less accepted by professionals and society.

From the professional perspective (Study IV), the staff experienced that SEXIT helped them identify more visitors in need of further care, but that some declined care or did not attend the subsequent appointment. Their shared experience was that youth clinics, to some extent, fail in meeting the needs of the hard-to-reach and vulnerable visitors, and they wished to become more successful. Reasonably, opportunistic screening can identify some individuals who lack motivation for care. Another youth clinic study demonstrated that only about 14% of women with experience of violence victimization wanted further counselling after routine inquiry [75]. In a subsequent interview study, some participants explained that they had already processed and recovered from the victimization at the time of the routine inquiry [83].

How youth clinics best utilize the momentum evoked by screening needs development. Evidence from alcohol screening (AUDIT) in primary care suggests that delivering an intervention immediately after screening is more beneficial than delaying it until a subsequent occasion [165] or after onward referral [166]. However, staff being non-judgemental when using

SEXIT might be more important for continued contact. When using SEXIT or in other ways actively addressing sensitive issues, being aware of the power inequality inherent in a counselling relationship between a youth clinic visitor and an adult healthcare professional is important. Looking at the situation from an intersectional perspective, there are several power structures affecting the relationship; age and education being the most obvious, but if the youth is socio-economically disadvantaged, migrant or LGBT, this is likely to accentuate the power imbalance even more. The young person is in a vulnerable position and this may result in different emotional reactions and actions on behalf of the youth.

Classification of the needs and experiences of a young visitor may not always be met with gratitude. It can be sensitive to be confronted with one's own behaviours, and the reaction is likely dependent on how the message is delivered and how it is received by the youth in question, based on previous experiences and trust in professionals. Hyden et al. [167] present the dilemma when a young person resists the prospective helpers' efforts to classify their needs and experiences. Hyden et al. argue that this dilemma cannot be resolved unless the helper can recognize not only the young persons' troubles but also their overall competence and their own potential for creating a better life for themselves [167].

The description of sexual risk-taking in this thesis comes from a professional healthcare perspective. From that perspective, the only rational behaviour is to avoid risk-taking because it may lead to sexual ill health. However, studies suggest that the youth perspective does not always coincide with this view. Among marginalized young people residing at detention centres, sexual risk-taking is viewed as being a chance of something good (i.e. pleasure, status, comfort, etc.) rather than a risk of something bad, and hence is a rational decision [168]. Vulnerable youths also visit youth clinics, and keeping these sometimes opposing perspectives in mind is valuable for understanding young people's behaviour regarding sexual health. Perhaps viewing sexual risk-taking as a chance of something good partially explains why some youths in the pilot implementation declined further care.

The youth clinic visitors in Study III clearly communicated the need for respectful and non-judgemental responses regarding SEXIT, and this is probably a key component for the success of the tool. Youth clinic staff need to be competent, respectful, and comfortable with initiating a dialogue on sensitive issues. They must also think beyond identification of "people at risk" by recognizing and promoting what is positive and healthy. By establishing a trustful relationship, the possibility increases for the young person to be willing to both disclose negative experiences and to receive care and support. Another precondition for dialogue on sexuality and violence expressed in this thesis as well as other studies is that healthcare

professionals can be trusted not to reveal information to parents or others [83,157]. Professional confidentiality and privacy, together with accessibility, staff characteristics and competency, are essential aspects of what is often referred to as youth-friendly sexual and reproductive health services [169].

The pilot implementation

The pilot implementation in Study II largely followed the critical steps proposed by Meyers et al. [120] in their QIF. Key steps in this framework include process evaluation, obtaining stakeholder buy-in, providing staff training and ongoing implementation support, all of which was done in the SEXIT implementation.

Close collaboration with stakeholders during the development of SEXIT and the planning of the pilot implementation helped ensure stakeholder buy-in and fostered a supportive organizational climate. This collaboration probably benefitted from an already established trust in the Knowledge Centre for Sexual Health (KSH), where the PhD candidate works. At the time, KSH and the youth clinics were organized under the same administrative unit within Region Västra Götaland and had previous experience of collaboration.

In the pre-implementation assessment of readiness for change (Study II), the staff answered positively for all measures, expressing belief in both their capability and intention to try SEXIT. Capability and intention are two constructs found to predict individual behaviours of healthcare professionals [170]. The concepts have their origin in Social Cognitive Theory [171], which argues that behaviour change is predicted by an individual's expectations regarding the outcomes of engaging in a behaviour and beliefs about one's ability to perform a specific behaviour (self-efficacy). The theory of organizational readiness for change uses the constructs "change commitment" and "change efficacy" to describe the organizational members' shared resolve to implement a change and their shared belief in their collective capability to do so [142]. The positive quantitative findings regarding readiness for change in Study II are supported by the qualitative findings from the focus group discussions (Study IV), the high participation rate among staff, and few cases when staff failed to invite visitors to participate in the study ($n=27$). The findings suggest that adoption of SEXIT among staff was high, another important indicator of implementation success described by Proctor et al. [122]. Although the adoption during a pilot implementation is not equivalent to adopting an innovation during an implementation process with more permanent intentions, it is a positive sign of the feasibility of a wider

implementation. The high adoption also suggest that equitable care was delivered in clinical practice.

The most important facilitators include the staff's experience of SEXIT increasing the consistency and quality of the clinics' work (Study IV), and the youth clinic visitors' experience that the questions were important and not uncomfortable or difficult (Study II). The visitors experienced that SEXIT enabled disclosure of negative experiences (Study III). These results suggest that SEXIT is regarded as both acceptable and appropriate by both users (staff) and end-users (youth clinic visitors) [122].

Regarding barriers, most of them relate to the feasibility of introducing SEXIT. Some youth clinic staff reported concerns that the introduction of SEXIT would be time-consuming or difficult. Such concerns are commonly identified as barriers to implementation of new practices in health care [172] and may be considered a natural hesitation regarding a new tool that may lead to practice change. After the pilot implementation, the youth clinic staff did not express that the use of SEXIT was difficult, but they did find the use problematic during drop-in hours due to time constraints (Study IV). Lack of resources and time constraints are common barriers to behaviour change and implementation of new practices, thereby affecting the feasibility of the implementation [172,173]. The extent to which an innovation can be successfully carried out within a given setting often comes down to prioritizing. Other significant implementation barriers related to feasibility (Study IV) were the need to better incorporate the tool into existing clinical routines; most importantly by integrating SEXIT into the medical record.

A barrier among psychosocial staff was the ambivalence towards using SEXIT systematically with all visitors, which can be understood as hesitation about the appropriateness of using SEXIT with clients whose concerns seem unrelated to risk of sexual ill health. Many participants also expressed concern that some young people did not attend the scheduled revisits. This was not attributed to SEXIT but can still be considered a barrier because it might affect motivation for using the tool if the staff are unable to provide adequate care and support to those identified.

The attributes of an innovation have been shown to influence implementation [121,174]. According to Rogers' DoI theory [121], innovations that are perceived by individuals as having greater relative advantage, compatibility, trialability, observability, and less complexity will be adopted more rapidly than other innovations. Using the innovation attributes of this theory to analyse SEXIT is one way of understanding the findings of the thesis:

Relative advantage: Compared with asking questions based on indication, the staff generally perceived that using SEXIT systematically enhanced the quality and consistency of their work (Study IV). They expressed that asking sensitive questions without a support tool is difficult and time-consuming. However, compared with not screening for different forms of ill health, SEXIT is perceived as time-consuming. The staff perceived that the visitors were positive about its use, although some visitors needed help to understand some of the wordings used in the questionnaire.

Compatibility: SEXIT corresponds well with the mission of youth clinics to work towards early identification to prevent sexual ill health. The development of SEXIT also coincides with a political and societal engagement in combating sexual violence. SEXIT corresponded with some staff's past experiences (Study IV); when they were stressed and did not ask properly, they received less valuable information from the visitor. However, the psychosocial staff found SEXIT less compatible with their professional role and an individually adapted approach.

Complexity: The participants in Study IV considered SEXIT easy to use; the staff could quickly scan through the questionnaire to see if there was a need for follow-up questions. Difficulties experienced were related less to SEXIT and more on how to care for visitors identified as at risk of sexual ill health.

Trialability: The pilot implementation of SEXIT only lasted a month and required no preparations other than the one-day training. A youth clinic professional can use SEXIT with a few visitors to get a feeling of how it works and how it affects the counselling without large investments.

Observability: Most staff (Study IV) found that the use of SEXIT resulted in visitors giving important and unexpected answers in the SEXIT questionnaire. This made the advantage of SEXIT observable.

Although more studied than many practices in health care, and incorporating research evidence, clinical expertise, and patient preferences, the results of this thesis only provide a limited evidence base in support of the adoption of SEXIT in youth clinics. More research is needed before SEXIT can be claimed as an EBP.

Regarding the preventive effect of SEXIT, it would arguably be greater if the tool was used in a setting with better coverage (e.g. in schools), including more men and other groups that are less common visitors to youth clinics. Schools reach almost all young people in Sweden, and school health care includes regular health checks with all students, providing good opportunities to create thrustful relationships that can build over time.

Using SEXIT in that environment could truly make a difference. However, those remaining challenges are outside the scope of this thesis.

METHODOLOGICAL CONSIDERATIONS

This chapter discusses the methodological strengths and limitations of the methods used in this thesis. It elaborates on the generalizability and trustworthiness of the results and reflects on the impact of integrating research with organizational development.

General strengths and limitations

A methodological strength of the whole thesis project is the inclusion of both user and end-user perspectives in the development and implementation of SEXIT. Users and end-users have been found to raise substantially different concerns [175], and both perspectives are important to develop the evidence base for a new innovation.

Another strength of the thesis is the use of a mixed methods design that allowed us to both compare quantitative statistical results with qualitative findings and validate and expand quantitative results with qualitative data, resulting in a more complete understanding of the research problem [123].

A limitation with the pilot implementation is that it only involved three clinics and lasted for one month. Staff acquiring more experience of the routine of using SEXIT, before data collection, would perhaps have affected the results.

The answers provided in the questionnaires (Studies I and II), as well as the qualitative studies (Studies III and IV), were self-reported and may be subject to recall bias. Furthermore, responses delivered during a consultation or interview (Study II and III) and not anonymously are likely to be underestimated due to the sensitive nature of the questions and the risk of social desirability [176]. Nevertheless, all the items in SEXIT received affirmative responses, including those of a more sensitive nature such as experience of sexually coercing someone.

Collaboration with different stakeholders during the development and implementation process of SEXIT, including participating youth clinics, is one of the main strengths of the thesis project. This resulted in a feasible clinical tool and helped ensure stakeholder buy-in and foster a supportive organizational climate. To my knowledge, SEXIT is the first published tool developed to facilitate identification of young people exposed to, or at risk

of, sexual ill health, including STIs, unintended pregnancy, transactional sex, and sexual violence, when visiting youth clinics.

Strengths and limitations of the quantitative studies

A limitation of Study I is that the sample was self-selected and not representative of Swedish youth in general. The sample was included in an analysis of non-response bias that compared four Swedish datasets generated by different sampling methods, showing that respondents from the self-selected web survey were more sexually active than respondents recruited through probability sampling [177]. Although it is difficult to generalize from a self-selected web-based sample, this way of sampling is likely to reach sexually active youth susceptible to chlamydia, potentially leading to a somewhat inflated prevalence in the study. Self-reporting of STIs has been demonstrated to underestimate the true STI history compared with previous self-reports [178]. A strength concerning the validity of self-reported chlamydia in Studies I and II is that it was performed in a setting (Sweden) with high accessibility to STI testing for the age group studied (youth clinics). The UngKAB09 study used an open question for gender to allow for multiple identities. This resulted in very few responses expressing a transgender identity ($n=46$), which limited possible analysis of transgendered participants.

Regarding the SEXIT questionnaire variables, a strength is the use of gender-neutral questioning, which is uncommon in research. This approach acknowledges the experience and responsibility for the event, regardless of gender, and was particularly relevant for the item of unintended pregnancy. Another strength is the inclusion of the item on experience of coercing someone sexually (Study II). It is unusual to pose this question in clinical consultations, and therefore the item had to be formulated specifically for this study. Drinking alcohol on a weekly basis was a determinant for chlamydia in Study I, and was also included in Study II. Because the question was vague with no statements about the amounts of alcohol, we cannot exclude the possibility that different results might have been obtained if the respondents' alcohol intake had been assessed in more detail.

Despite using the best available evidence to inform the development of SEXIT (Study II), the cross-sectional design that underpinned the items used in the research provides weak evidence of causal relationships between risk factors and sexual ill health. As the knowledge of sexual risk-taking and ill health develops, so should SEXIT. Revisions of the questionnaire have already been made based on the results in this thesis and the work of others.

Based on the broad variety of questions and the many circumstances not accounted for in a very brief questionnaire such as SEXIT, we chose not to use a summative score or propose definite cut-off values (similar to AUDIT or DUDIT). A score or cut-off value would be misleading and would oversimplify complex circumstances.

The methods used to validate SEXIT were limited to content and face validity evaluations (Studies II and III). The questionnaire was developed for use in clinical settings as a basis for risk assessment, including a discussion based on the youths' responses. The fact that it is not a diagnostic tool limited the relevance of some established methods for validating instruments. For example, test-retest reliability was inappropriate because different answers after repeated visits could be expected as caregiver-patient trust developed. Testing construct validity would have required a full set of questions concerning every theme in the questionnaire, and the questionnaire then would have lost its advantage of being brief and feasible for systematic use.

The findings of Studies I and II are possibly generalizable to other high-income countries with a similar system of youth clinics that can ensure confidentiality and have a similar liberal view on sexuality among young people. However, results are always dependent on the context, and no social context will ever be the same as the one in which the original studies were performed; that is, strict replication is impossible [179]. Hence, some degree of adaptation might be necessary when implementing SEXIT in other contexts [180].

Strengths and limitations of the qualitative studies

Studies III and IV are based on qualitative data and analyses. The trustworthiness of qualitative research can be assessed based on four criteria proposed by Lincoln and Guba [181]: Credibility, Confirmability, Dependability and Transferability.

We aimed for credibility by using analyst triangulation as we conducted the analysis in cooperation. Codes and categories were assessed for relevance by the co-authors during and after completion of the analysis (peer debriefing). Recruiting participants from three different youth clinics working with SEXIT also enhanced credibility. By including both regular youth clinics and the specialized clinic, we ensured that we involved young people both with and without negative experiences of sexuality in the sample. Purposeful sampling of youth clinic visitors, ensuring a variation in the sample similar to the client base of youth clinics, further enhanced credibility [124].

In Study IV, a varied sample of participants was achieved by including staff of different professions from different youth clinic settings [146,147]. Heterogeneous focus groups were achieved, except concerning gender. However, the gender composition of the focus groups reflects the gender composition at the clinics. The use of smaller group sizes has the advantage of creating a safe and secure group environment, where everyone has an opportunity to be heard [182]. However, small groups also limit the number of possible experiences of the research topic [146]. The group with only three participants and two researchers might have led to a power imbalance that could have a restricting effect on the discussion, although the researchers did not notice any such signs. Credibility of the qualitative studies was enhanced using supporting quantitative data from Study II.

Confirmability was sought by labelling categories closely corresponding to the text and by literal quotations linking the findings to the data [124]. Dependability was ensured by describing the process of inquiry as clearly and traceable as possible and by the PhD candidate conducting all the interviews during a limited time period [183]. Based on insight into the collected data, it was an advantage that the PhD candidate conducted the focus groups and led the analysis (Study IV) [182]. Dynamic focus group discussions where participants spoke freely and both confirmed and opposed each other's views also suggest dependable results [146,182].

To enhance transferability, the setting and context of Studies III and IV have been carefully described. The findings are contextual and cannot be generalized. However, patterns in the findings might be transferable to similar groups in comparable contexts [181].

Integrating research with organizational development

Implementation science and organizational development within health care share the ambition to ultimately improve health care, but there are also fundamental differences between the two endeavours. Organizational development concerns the practical application of knowledge for local improvement and the results are not primarily intended to be generalized outside the specific population or setting. In contrast, implementation science is aimed at the accumulation of new generalizable knowledge that has relevance beyond the specific study [184]. Research suggests that teams working with practice improvement likely have much to gain from making use of implementation science knowledge and that implementation scientists could facilitate this knowledge transfer by converting research

findings into practical tools and guidance to make research easier to apply for improvement teams [184].

Researchers who observe and study change, but who are also more involved in making changes in different ways, are not uncommon [184]. Integrating the two roles, being a researcher *and* a development manager, has both advantages and drawbacks. In the case of this thesis project (Studies II–IV) and the accompanying development project, the integration resulted in a researcher familiar with youth clinics and cooperating with youth clinic staff, and a development manager with first-hand information about the research developments. From the perspectives of both roles, these are substantial advantages that likely benefitted the pilot implementation in Study II.

With regard to drawbacks of a double role, a main concern is whether being development manager negatively affected the ability to be objective when collecting and analysing data, and the risk of overstating the results. Conducting the research described in this thesis as part of an experienced research team has been important to facilitate reflective discussions and ascertain critical perspectives on all aspects of the research process.

Another issue is whether the participants in the qualitative studies felt or presumed that the researcher had a wish for certain results because I was also the development manager of SEXIT, and whether this affected their responses. This type of bias is called social desirability bias [176]. As a PhD candidate, I have been aware of the potential for this type of bias, but I have tried to not let my role as development manager negatively affect the quality and integrity of any aspect of the research. The youth visitors in Study III had no knowledge that I was also a co-creator of SEXIT. In Study IV, the youth clinic staff were aware of this relationship. However, the fact that both positive and negative aspects of SEXIT were raised during the discussions suggests that the participants felt able to raise a range of different opinions, including more negative ones. Thus, given all the methodological steps taken to enhance trustworthiness, the potential negative consequences of my dual roles are likely small.

Another possible disadvantage of combining the role of the researcher as observer with that of an active enabler is that it may be problematic to generalize the results to settings without researchers available to assist the implementation [184].

Regarding the choice of the process model, QIF has the advantage that it synthesises 25 different implementation frameworks and summarizes the research support for every step included in the model [120]. In this project, it served as a practical guide, because it focuses on actions, and every step includes questions important to answer to complete that step. QIF is detailed yet generic enough to be applied to different circumstances.

However, the framework also had some shortcomings regarding how well it suited the thesis project. As QIF was developed to guide the implementation of an already existing intervention, the initial steps of QIF were included in the development phase of SEXIT. For example, a needs and fit assessment was conducted in dialogue with managers and a reference group during the early stages of development. Regarding the steps of creating implementation teams and providing technical assistance, in the small-scale pilot implementation, that role was primarily mine, together with the managers and one staff member at every youth clinic serving as innovation champions. The innovation champions participated in both the development of the tool and the implementation of SEXIT, and hence had valuable information to support their colleagues. They also served as contact persons between the clinics and me.

The QIF does not address users having dual roles as researcher and development manager, nor does it include researcher–user collaboration as an active strategy in implementation. However, an important step in the QIF is obtaining explicit buy-in from critical stakeholders and fostering a supportive organizational climate [120]. It is likely that my dual roles and active user collaboration facilitated achieving this goal.

To promote research uptake, the strategy of using influential persons, for example, colleagues, role models, or research champions to inform policymakers and practitioners about the research and persuade them about its value, has been suggested [185]. In addition, collaboration between researchers and users can be used as a more active form of social influence to increase the use of evidence-based methods [185]. Like these strategies, perhaps the active engagement of a researcher in the implementation process could be regarded as an implementation strategy.

In retrospect, a strategy or framework where facilitation is a more central component, for example, PARIHS (Promoting Action on Research Implementation in Health Services) [186], would possibly have been more appropriate for the pilot implementation given my active engagement and the interactive problem-solving that has been taking place through the development phase and implementation.

CONCLUSIONS AND IMPLICATIONS

Conclusions

This thesis contributes with knowledge on identification of sexual risk-taking and ill health among young people. The main conclusions of the thesis are:

- The number of partners during the past year is the most important risk factor for chlamydia infection regardless of gender according to a risk-assessment model.
- Chlamydia infection is associated with multiple risk behaviours, reimbursement for sex and sexual violence victimization. Thus, chlamydia in the high-risk group is not only a negative factor but may also be a marker of negative sexual experiences and a lifestyle that involves additional health risks.
- Based on a pilot implementation, SEXIT is acceptable, appropriate, and feasible from the perspective of youth clinic staff, youth clinic visitors and from an implementation point of view.
- SEXIT identifies youth clinic visitors reporting 0–7 parallel risk factors. Thus, systematic use of SEXIT help raising important questions on sexual risk-taking and sexual ill health with youth clinic visitors.
- Being asked the sensitive yet important questions in SEXIT, followed by a respectful and non-judgemental conversation led by the youth clinic staff, has the potential to open up a deep and broad dialogue about the visitors' sexual health.
- The SEXIT procedure makes youths feel that they are taken seriously and that questions relevant to them are also important to the youth clinic staff. Thereby the use of SEXIT contributes to instilling feelings of trust and confidence that enable disclosure of sensitive experiences.
- Youth clinic staff experience that SEXIT advances their knowledge and facilitates identification of young people exposed to or at risk of sexual ill health by simplifying and ensuring consistency and quality.
- The use of SEXIT is challenged by structural barriers related to existing clinical routines, conflicting professional roles and worries about the continued care of vulnerable visitors.

Implications for practice

The findings in this thesis primarily have numerous potential implications for youth clinics but also for preventive sexual and reproductive health care in general.

- The non-random distribution of chlamydia demonstrated in Study I and, similarly, the multiple risk exposure in some individuals, demonstrated in Study II, should be taken into consideration for the prevention of chlamydia, unintended pregnancies, and violence victimization. Future strategies should aim at reaching risk groups.
- Reported inconsistencies in how, if, and to whom youth clinic staff raise important questions on sexual risk-taking and violence victimization suggest that routine inquiry is warranted to improve prevention of associated ill health.
- The systematic use of SEXIT could help youth clinic staff to identify the most vulnerable visitors, while simultaneously ensuring equitable health care where all visitors have the same opportunity to discuss sexual risk-taking and disclose negative experiences.
- SEXIT was found to be an acceptable, appropriate, and feasible tool in the youth clinic setting, suggesting that wider implementation of SEXIT in Swedish youth clinics is feasible and has the potential to improve the quality and equity of the care provided to young people.
- Implementation of SEXIT on a wider scale will likely require organizational development and support from management at all levels. Routines will need adjustments to function smoothly, and the use of SEXIT will likely generate new questions and areas in need of improvement within that specific organization. For example, SEXIT can make youth clinic staff more aware of sexual health needs among their visitors, resulting in discussions on how youth clinic services can be improved.
- The purpose of SEXIT is to identify sexual risk-taking and exposed young people to offer them care and support. However, the use of SEXIT highlighted shortcomings in the youth clinics' ability to care for some of those identified. Qualitative healthcare services that are available, accessible, and acceptable to vulnerable or victimized young people is a matter of equity and sexual and reproductive rights, but they are also a prerequisite for attaining the benefits of systematic identification of young people at risk of sexual ill health.

Suggestions for future research

The risk-assessment model in Study I needs to be validated in clinical settings. Future research should study the effectiveness of SEXIT to identify young people at risk of sexual ill health in comparison with usual practices using a stronger research design.

To better understand the barriers for care and why some youth clinic visitors decline or do not attend the scheduled follow-up, it would be valuable to conduct qualitative studies with those young people.

The process after identification, that is, what type of care the identified youth clinic visitors receive, and the impact it has on their health and well-being need to be studied. Unpublished data suggest that the visitors identified as high-risk through SEXIT were more often scheduled for return visits and received more active measures compared with visitors demonstrating fewer risk factors.

From an implementation point of view, it would be relevant to study the unusual and wide adoption of SEXIT from the development project, including issues concerning change management, fidelity, adaptations, implementation cost, penetration and sustainability.

Based on the notion that not all young people visit youth clinics and especially not young men, it would be desirable to explore the use of SEXIT in school health care. Using SEXIT in schools would entail reaching most young people living in Sweden and ensure greater gender equality.

As SEXIT has evolved since the pilot implementation was performed, and now includes items regarding physical and emotional violence, using sex as anxiety relief, and protection against STIs and unintended pregnancy, the latest version of SEXIT needs to be validated. It would also be valuable to validate SEXIT in contexts other than Swedish youth clinics. The use of SEXIT by other researchers is encouraged.

POSTFACE

The evolution of SEXIT is driven forward by both the research project described in this thesis and by a development project. They are two parallel processes which both add to the knowledge base on the use of SEXIT. The development project started in 2016 when the data collection for this thesis had been completed and the preliminary analyses showed promising results. Several of the participating youth clinic staff wished to continue using SEXIT and after presenting the preliminary results at various conferences and national meetings, the interest from other youth clinics in Sweden grew quickly. The Knowledge Centre for Sexual Health (KSH) decided that it would be unwise to curb the interest by waiting for the published results and started a parallel development project. There clearly was an unmet need for a tool such as SEXIT.

The process of a development project is generally faster paced than a rigorous research process, perhaps particularly a PhD research project which involves taking courses and other activities that are not directly related to progressing the actual research process; this was the case also for SEXIT. Because the interest in SEXIT was great, it was further developed into a second version (SEXIT 2.0). The changes were based on the preliminary results of the research presented in this thesis and requests from the youth clinics on how to adapt SEXIT to the clinical environment. SEXIT 2.0 was modified by adding new items regarding physical and emotional violence, and protection against STIs and unintended pregnancies. The written SEXIT guide was developed into a more advanced handbook, and all materials were designed to be more aesthetic and user-friendly.

The introduction of SEXIT 2.0 in the spring of 2017 resulted in an unexpected and unprecedented number of requests for SEXIT training and material to start using the tool, further demonstrating the need for this type of tool. The requests came from all over Sweden, and KSH was given permission to provide training and materials to youth clinics outside Region Västra Götaland at cost price. In 2018, youth clinics in the region announced that it would be impossible to implement SEXIT as well as routine inquiry on violence, as decided by a political committee. This information resulted in a third development of SEXIT (SEXIT 3.0) in which KSH and Region Västra Götaland Competence Centre on Intimate Partner Violence merged their questionnaires to suit the needs of the youth clinics. SEXIT 3.0 includes an expanded section on violence regarding both perpetration and victimization. A question on using sex as anxiety relief or

self-injury was also added, based on recent research developments by Fredlund et al. [56].

SEXIT 3.0 was introduced in 2019 and is, at the moment of writing, the latest version of the tool. Today, SEXIT is implemented at youth clinics in 10 of 21 regions in Sweden, including nearly all youth clinics in Region Västra Götaland, and its use is still increasing. Since the beginning of the development project, all materials are available online free of charge at www.vgregion.se/sexit.

SEXIT has also evolved in other aspects. For example, SEXIT has been translated into the five most common languages among young people in Sweden together with a visual aid. From 2020, SEXIT can be answered digitally before a scheduled appointment through the Healthcare Guide online at 1177.se. This website is Sweden's national hub for advice, information, and e-services for health and health care. The website has around 12 million visitors per month, is free from commercial interests, and is owned by all regional councils.

Apart from youth clinics, SEXIT is also used by nurses working with youth as part of the alcohol and drug services in Gothenburg. SEXIT has also been pilot-tested in the school setting as part of the regular health checks in years 8 and 11 and evaluated in a master's thesis with promising results. The implementation and effect of SEXIT in the school setting is currently under investigation in a new PhD project at the University of Gothenburg.

ACKNOWLEDGEMENTS

There is no magic to achievement. It is really about hard work, choices and persistence.

–Michelle Obama

Även om det kan kännas som ett mirakel att jag nu är färdig, så håller jag med Michelle. Jag skulle dock vilja tillägga att för att våga fatta beslut och orka kämpa krävs det stöd från många olika håll och det känner jag verkligen att jag haft. Jag vill tacka:

Min huvudhandledare **Per Nilsen**, för att du såg potential i mig och mitt projekt och för att du möjliggjorde min doktorandutbildning på Linköpings universitet. Har särskilt uppskattat hur enkelt vårt samarbete har varit, din pragmatiska hållning och dina tänkvärda reflektioner kring implementering.

Min bihandledare **Susanne Bernhardsson**, för att du visade mig vägen till att bli doktorand och har guidat mig genom utbildningen, för att du alltid tar dig tid och för att du varit så engagerad, dag som natt!

Min bihandledare **Malin Lindroth**, för att du är lugnet i stormen, för att du bidragit med viktiga perspektiv från fältet sexualitetsforskning, för att du påmint om min självständighet och för att du är så härlig att arbeta med.

Karin Stenqvist, min erfarna kollega och medförfattare. Jag skulle även vilja kalla dig mentor, du har varit med på hela resan och utan dig hade vare sig jag eller SEXIT varit där vi är idag!

Mina kollegor på KSH för stöd och pepp. Särskilt mina närmsta chefer **Stefan Laack** och **Karin Rasper**, vars stöd har varit helt avgörande för att kunna kombinera forskning och arbete.

Emma Svanholm, för ditt bidrag till utvecklingen av SEXIT, ditt engagemang och din viktiga kliniska erfarenhet från SMC-Pilen.

Smittskydd Västra Götaland, och särskilt **Peter Nolskog** för deltagande i utvecklingen av SEXIT och som medförfattare.

Forna **Adlon-nätverket**, och särskilt samordnare **Elin Ståhl Johansson** och **Blekinge ungdomsmottagningar**, för samarbete vid utvecklingen av SEXIT.

Ronny Tikkanen, medförfattare som möjliggjorde min första artikel och var den som först sådde ett frö kring möjligheten att bli doktorand.

Anders Odén, som stöttade de statistiska analyserna i studie I.

Jennie Elisson och **Ellinor Frostholm**, medförfattare och aktiva i implementeringen.

Elisabeth Björk Brämberg och **Malin Hansson**, som granskade min kappa.

FoU primärvård som alltid varit behjälpliga.

Cecilia Fredlund, **Anna Kågesten** och **Kristina Holmqvist**. Eftersom avståndet till Linköping bidragit till en svagare institutionsanknytning, har ni mina forskande vänner varit extra viktiga. Ni är alla steget före mig i karriären och har både varit inspirationskällor och viktiga bollplank på vägens gång!

Vänner och familj, för stöd och motivation. Särskilt min älskade son **Simon** som hjälpt mig att behålla perspektiv på tillvaron.

Tack också till **referensgruppen** och **deltagande ungdomsmottagningar** som bidrog med sin expertkunskap vid framtagandet av SEXIT, och särskilt tack till **alla som deltagit i studierna**.

Financial support was received from the Healthcare Committee, Region Västra Götaland; the Medical Research Council of Southeast Sweden; the Research and Development Centre of Gothenburg and Södra Bohuslän; and Knowledge Centre for Sexual Health, Region Västra Götaland.

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APPENDICES

Appendix 1. The SEXIT questionnaire, version 1.0

SEXIT - questions on sexual health and risk-taking

Please answer the questions by checking the box for the option that best applies to you.

1. How old are you? _____ years						
2. How do you identify? Do you view yourself as:	Male ☐	Female ☐	Transgender ☐	I prefer not to categorize myself ☐	Other ☐	
3. What is your sexual orientation? Do you view yourself as:	Heterosexual ☐	Homo- sexual ☐	Bisexual ☐	I prefer not to categorize myself ☐	Other ☐	
4. Who do you live with? Select the option that best fits your current living situation.	Alone ☐	With parent(s) ☐	With foster parents/ family home/ institution/ group home ☐	With friend(s) ☐	With a partner (girlfriend/ boyfriend) ☐	Other ☐
5. <i>During the past 12 months</i> , how often have you consumed alcohol?	4 times/week or more ☐	2-3 times/ week ☐	2-4 times/ month ☐	1 time/ month or less ☐	Never ☐	
6. Have you ever used hashish or marijuana?	Yes, during the past 30 days ☐	Yes, during the past 12 months ☐	Yes, more than 12 months ago ☐	Never ☐		
7. Have you ever used an illicit drug other than hashish or marijuana (for example amphetamine, cocaine, heroin, ecstasy, LSD or non-prescribed drugs)?	Yes, during the past 30 days ☐	Yes, during the past 12 months ☐	Yes, more than 12 months ago ☐	Never ☐		
8. How old were you the first time you had sex with someone? _____ years Having sex can – but doesn't have to – mean that you had penetrative vaginal, oral or anal intercourse. Sex can mean many different things, such as masturbating with someone, making out, touching or being touched. You decide which occasion that was your first time. If you don't remember exactly, give an estimate of how old you were.						

If you haven't had sex with someone, you are now done with the questionnaire. Thank you for answering the questions!

9. How many different persons have you had sex with during the past 12 months? _____ person(s) Give an estimate if you don't remember exactly.					
10. <i>During the past 12 months</i> , has it happened that you have had sex with someone the first time you met?	Yes, it has happened <i>more than 3</i> times ☐	Yes, it has happened 3 times ☐	Yes, it has happened 2 times ☐	Yes, it has happened once ☐	No ☐

11. Have you ever had chlamydia?	Yes, during the past 12 months ☐	Yes, more than a year ago ☐	No ☐	Don't know ☐
12. Have you or your partner ever experienced an unintended pregnancy?	Yes ☐	No ☐	Don't know ☐	
13. Have you ever received payment or other reimbursement for a sexual service? (reimbursement can be either money or other things, such as alcohol, cigarettes, drugs, accommodation, food, things, trips, etc.)	Yes, during the past 12 months ☐	Yes, more than a year ago ☐	No ☐	
14. Have you ever paid someone or given someone other reimbursement for a sexual service?	Yes, during the past 12 months ☐	Yes, more than a year ago ☐	No ☐	
15. Have you ever experienced any of the following against your will? Masturbating for someone, or having vaginal, oral or anal intercourse.	Yes, during the past 12 months ☐	Yes, more than a year ago ☐	No ☐	
16. Have you ever, or do you think you might have, persuaded, coerced or forced someone sexually?	Yes, during the past 12 months ☐	Yes, more than a year ago ☐	No ☐	
17. How did you feel about answering this questionnaire?	Completely disagree			Completely agree
	1	2	3	4
The questions were important	☐	☐	☐	☐
The questions were uncomfortable	☐	☐	☐	☐
The questions were difficult to answer	☐	☐	☐	☐

If you have any other comments or anything you want to add please use the space below.

Thank you for answering the questions!

Appendix 2. The SEXIT written guide, version 1.0

(in Swedish)

Fråga	Svarsalternativ	Följdfrågor	Åtgärd	Riskunderlag
1. Hur gammal är du?	Understruken svar indikerar risk för sexuell ohälsa, se "Riskunderlag".	Förslag på kompletterande följdfrågor.	Förslag på möjliga åtgärder.	Urnval av referenser och motivering till frågan.
2. Hur definierar du dig?	<ul style="list-style-type: none"> * Man * Kvinna * Transperson. * Vill inte kategorisera mig * Annat 	<p>Är det här en fråga du vill prata vidare om?</p> <p>Är du öppen utåt?</p> <p>Vilket namn och pronomen vill du att jag använder om dig?</p>	<p>Återbesök.</p> <p>Remiss till Lundströms-mottagningen.</p>	<p>Underlag för bedömning. Risk för ohälsa är generellt sett större ju yngre besökaren är (1).</p> <p>En svensk studie av hälsan bland transpersoner visar att transpersoner är mer utsatta för övergrepp, trakasserier, diskriminering och våld än cis-personer, vilket speglas i psykisk ohälsa (2). Internationella studier visar på ökad risk för hiv.</p>
3. Hur definierar du din sexuella läggning?	<ul style="list-style-type: none"> * Heterosexuell * Homosexuell * Bisexuell * Vill inte kategorisera mig * Annat 	<p>Är det här en fråga du vill prata vidare om?</p> <p>Är du öppen utåt?</p> <p>Har du erfarenhet av sexuell praktik i enlighet med din sexuella läggning?</p>	<p>Återbesök.</p>	<p>Homo/bisexuella ungdomar är mer utsatta för sexuellt våld än heterosexuella ungdomar. Mer aktiva på internet vilket innebär ökad risksatsatthet (3). Män som har sex med män är mer risksatta för STI/hiv.</p>
4. Vem/vilka bor du tillsammans med?(just nu)	<ul style="list-style-type: none"> * Ensam * Hos förälder/föräldrar * Hos fosterföräldrar/HVB/familjehem/ institution * Med kompis/kompisar * Med partner (flickvän/pojkvän etc.) * Annat 	<p>Vi vet att ungdomar som är eller har varit placerade oftare har egen erfarenhet av sexuell risksatsatthet, är det något du känner igen?</p> <p>Vilka andra bor du ihop med?</p> <p>Är du nöjd med din boendesituation?</p> <p>Har du bott eller varit placerad utanför hemmet under din uppväxt?</p> <p>Hemlös?</p>	<p>Ansökan om stöd hos socialtjänsten för boendesituationen.</p>	<p>Unga som har bristande vuxenstöd, är placerade eller på rymmen löper högre risk att utsättas för övergrepp. Placerade unga är också mer sexuellt risk/chanstagande (4,5).</p>
5. Hur ofta har du druckit alkohol under de senaste 12 månaderna?	<ul style="list-style-type: none"> * 4 gånger/vecka eller mer * 2-3 gånger/vecka * 2-4 gånger/månad * 1 gång/månad eller mer sällan * Aldrig 	<p>Mängd? Berusningsdrickande? Ångest? Minnesluckor?</p> <p>I vilket sammanhang dricker du?</p> <p>Vad fyller alkoholen för funktion för dig?</p> <p>Hur påverkar det din vardag och relationer till andra? Eget lidande eller andras problem?</p> <p>Pos./neg. konsekvenser?</p> <p>Pågående kontakt/stöd?</p> <p>Är det något du skulle vilja få hjälp med/prata om?</p>	<p>Återbesök.</p> <p><18år överväg orosanmälan. Samverkan med Rådgivningscentrum, Mini-Maria, missbruksvården för vuxna etc.</p> <p>AUDIT/DUDIT</p>	<p>Det finns inga tydliga bevis för att konsumtion av alkohol och droger leder till sexuellt risktagande, däremot finns samband mellan hög konsumtion och sexuellt risktagande (oskyddat sex, STI) (6). Sannolikt finns gemensamma underliggande faktorer som exempelvis bristande omsorg eller negativa erfarenheter som leder till ett generellt risktagande.</p>

6. Har du någon gång använt hasch eller marijuana?	<p>* Ja, under de senaste 30 dagarna</p> <p>* Ja, under de senaste 12 månaderna</p> <p>* Ja, för mer än 12 månader sedan</p> <p>* Aldrig</p>	<p>Hur ofta använder du droger?</p> <p>Vad fyller drogen för funktion för dig?</p> <p>Hur påverkar det din vardag och relationer till andra? Eget lidande eller andras problem?</p> <p>Pos./neg. konsekvenser?</p> <p>Pågående kontakt/stöd?</p> <p>Är det något du skulle vilja få hjälp med?</p>	<p>Aterbesök.</p> <p><18år övervåg orosanmälan.</p> <p>Samverkan med Rådgivningscentrum, Mini-Maria, missbruksvården för vuxna etc.</p> <p>AUDIT/DUDIT</p>	<p>Samband finns mellan att ha varit utsatt för sexuellt våld och drogmissbruk (7).</p>
7. Har du någon gång använt annan narkotika än hasch eller marijuana?	<p>* Ja, under de senaste 30 dagarna</p> <p>* Ja, under de senaste 12 månaderna</p> <p>* Ja, för mer än 12 månader sedan</p> <p>* Aldrig</p>	<p>Vilken typ av drog? Har du någon gång injicerat drog?</p> <p>Hur ofta använder du droger?</p> <p>Vad fyller drogen för funktion för dig?</p> <p>Hur påverkar det din vardag och relationer till andra? Eget lidande eller andras problem?</p> <p>Pågående kontakt/stöd?</p> <p>Är det något du skulle vilja få hjälp med?</p>	<p>Hiv/hepatit-provtagning.</p> <p>Aterbesök.</p> <p><18år övervåg orosanmälan.</p> <p>Samverkan med Rådgivningscentrum, Mini-Maria, missbruksvården för vuxna etc.</p> <p>AUDIT/DUDIT</p>	<p>Samband finns mellan att ha varit utsatt för sexuellt våld och drogmissbruk (7). Intravenöst drogmissbruk innebär risk för hiv och hepatit.</p>
8. Hur gammal var du den första gången du hade sex med någon annan?	<p>Fritext svar</p> <p>--> om 14 år eller yngre</p>	<p>Om du tänker tillbaka på det tillfället, var det ett eget val?</p> <p>Alder på partner?</p> <p>Fortsatte du att vara sexuellt aktiv efter din debut?</p>	<p>Informera om sexualbrottsläggningsstiftning.</p> <p><18år övervåg orosanmälan.</p> <p>Polisanmälan.</p>	<p>Sexdebut före 15-års ålder har samband med sexuellt risktagande och erfarenhet av sexuellt våld (8,9). Samlag med person <15år är våldtäkt mot barn, preskriptionslid 15år efter myndighetsålder, BrB Kap 6.</p>
9. Hur många olika personer har du haft sex med under de senaste 12 månaderna?	<p>Fritext svar</p> <p>--> om 4 stycken eller fler</p>	<p>Typ av relation? Fasta partners/ tillfälliga partners/ regelbundna KK/parallella partners?</p> <p>Hur söker du kontakt med partner?</p> <p>Är du nöjd, känsla efteråt?</p> <p>Alkohol/droger?</p> <p>Initiativtagare, eller bara händer?</p> <p>Sexuell praktik? (analt, vaginalt, oralt etc.)</p> <p>När testade du dig senast för STI?</p> <p>Kondom/ annat preventivmedel?</p> <p>Sexuella kontakter eller skickat nakenbilder via internet?</p>	<p>STI/hiv/hepatit-provtagning, preventivmedelsrådgivning, kondomsamtal.</p> <p>Aterbesök.</p> <p>Informera om överföringsrisk vid olika sexuell praktik.</p> <p>RFSUs säkrare sex praktika</p>	<p>Flera sexpartners är den tydligaste riskfaktorn för STI. Risken kan förklaras av samband mellan att ha många partners och att inte använda kondom regelbundet (10).</p>

10. Har det hänt under de senaste 12 månaderna att du haft sex med någon första gången ni träffades?	<p>* Ja, det har hänt mer än tre gånger</p> <p>* Ja, det har hänt tre gånger</p> <p>* Ja, det har hänt två gånger</p> <p>* Ja, det har hänt en gång</p> <p>* Nej</p>	Frågan ställs inte utifrån en moraliserande grund utan syftar till att öppna för samtal. Hur brukar det gå till?	STI/hiv/hepatit-provtagning, preventivmedelsrådgivning, kondomsamtal, akut p-piller, graviditetstest. RF-SUs Säkrare sex praktika.	Frågan om sex vid första träffen är med för att det kan belysa risktagande. Underlag för samtal.
11. Har du/har du haft klamydia?	<p>* Ja, under de senaste 12 månaderna</p> <p>* Ja, för mer än ett år sedan</p> <p>* Nej</p> <p>* Vet inte</p>	När i tiden? Initiativtagande? Känsla efteråt? Är det här ett sätt du är nöjd med? Brukar du använda något skydd mot könssjukdomar/graviditet?	STI/hiv/hepatit-provtagning, preventivmedelsrådgivning, kondomsamtal. RF-SUs Säkrare sex praktika.	Tidigare klamydiainfektion innebär förhöjd risk för ny infektion (11).
12. Har du eller din partner blivit oplanerat gravid?	<p>* Ja</p> <p>* Nej</p> <p>* Vet inte</p>	När hände det? Hur många gånger har du/partner varit det? Fortsatte graviditeten? Hur var det för dig? Oroar du dig för graviditet? Funderande preventivmedel idag? Erfarenhet av akut p-piller? Graviditets önskan?	STI/hiv/hepatit-provtagning, preventivmedelsrådgivning, kondomsamtal, akut p-piller, graviditetstest.	Personer som tidigare gjort abort löper ökad risk att bli ofrivilligt gravida igen. 40% av svenska kvinnor som gjorde abort hade tidigare genomgått minst en abort (12).
13. Har du någon gång fått ersättning eller betalning för en sexuell tjänst?	<p>* Ja, under de senaste 12 månaderna</p> <p>* Ja, för mer än ett år sedan</p> <p>* Nej</p>	Vad var det som hände? Möte iri eller online? Kondom/preventivmedel? Vad var det som hände? Hot/farligt? Lustfyllt? I Sverige eller utomlands? Har du berättat om det för någon? Behov av stöd? Sexuella kontakter eller skickat nakenbilder via internet? Sannolikhet att det händer igen? Tvängsmässighet/sexmissbruk? Sex som självskada?	STI/hiv/hepatit-provtagning, preventivmedelsrådgivning, kondomsamtal. Klargör att det inte är olagligt att ta emot ersättning för sex. Berätta om sekretess och anmälningsplikt. Återbesök, samtalskontakt. <18år överväg orosanmälan. Samverkan med andra, SMC-Pilen, Mikamottagning, Barnahus etc.	Ca 1.5% av ungdomar rapporterar att de fått ersättning för sex, i vissa studier fler pojkar än flickor. Det är en mycket utsatt grupp. Dessa ungdomar har i mycket hög utsträckning tidigare utsatts för sexuella övergrepp. Kontakter sker ofta över nätet (5).

14. Har du någon gång gett någon ersättning/betalat för en sexuell tjänst?	<p>* Ja, under de senaste 12 månaderna</p> <p>* Ja, för mer än ett år sedan</p> <p>* Nej</p>	<p>Vad var det som hände?</p> <p>Möte IRL eller online?</p> <p>Kondom/preventivmedel?</p> <p>I Sverige eller utomlands?</p> <p>Har du berättat om det för någon?</p> <p>Behov av stöd?</p> <p>Sexuella kontakter eller skickat nakenbilder via internet?</p> <p>Tvångsmässighet/sexmissbruk? Sex som självskada?</p> <p>Sannolikhet att det händer igen?</p>	<p>STI/hiv/hepatit-provtagning, preventivmedelsrådgivning, kondomsamtal.</p> <p>Återbesök, samtalskontakt.</p> <p><18år överväg orosanmälan.</p> <p>Samverkan med andra, SMC-Pilen, KAST etc.</p>	<p>Att ha gett någon ersättning för sex är ofta förenat med andra riskfaktorer och ohälsa. Det kan ske tvångsmässigt och används ibland i ängestlindrande syfte (14). I en stor sexvanestudie från 2009 angav 5% av pojkar och 0,5% av flickor 15-29 år att de någon gång gett ersättning för sex (15).</p> <p>I Sverige är det olagligt att köpa sex (sexköpslagen).</p>
15. Har du varit utsatt för något av följande mot din vilja? (onanerat, eller haft oralt/ vaginalt/anal samlag)	<p>* Ja, under senaste 12 månaderna</p> <p>* Ja, för mer än ett år sedan</p> <p>* Nej</p>	<p>Vad var det som hände?</p> <p>Hur påverkade det dig idag?</p> <p>(Om senaste 10 dagarna, har du gjort DNA-spärsäkning på akutmottagningen?)</p> <p>Har du berättat om det för någon?</p> <p>Polisanmält?</p> <p>Behov av stöd?</p> <p>Sexuella kontakter eller skickat nakenbilder via internet?</p> <p>Utsatt för någon annan sexuell handling som inte kändes bra? (tex tafsad på, smärta vid sex)</p> <p>Känt ängest efter sex?</p> <p>Upplevt fysiskt eller psykiskt våld?</p>	<p>STI/hiv/hepatit-provtagning, preventivmedelsrådgivning, kondomsamtal.</p> <p>Återbesök, samtalskontakt.</p> <p><18år överväg orosanmälan.</p> <p>(DNA-spärsäkning)</p> <p>Samverkan med SMC-Pilen, Barnahus, BUP, Kriscentrum etc.</p>	<p>Personer som utsatts för sex mot sin vilja uppvisar sämre fysisk och psykisk hälsa. Ju fler trauma av olika slag (fysiskt, psykiskt, sexuellt våld, bristande omsorg) desto sämre hälsa. Tidiga tonår är största riskperioden. Oftast jämnaåriga förövare. Ytterst få (9% av flickor och 3% av pojkar) berättar för yrkesverksamma.</p> <p>Det finns samband med fortsatt sexuellt risktagande och sociala problem (5, 16-18).</p>
16. Har du, eller tror du att du kan ha övertalat, pressat eller tvingat någon till sexuell handling?	<p>* Ja, under de senaste 12 månaderna</p> <p>* Ja, för mer än ett år sedan</p> <p>* Nej</p>	<p>Vad var det som hände?</p> <p>Hur försäkrar du dig om att sexet är ömsesidigt och önskat?</p> <p>Gräzon-sex? Tjätsex?</p> <p>Tvångsmässighet/sexmissbruk? Sex som självskada?</p> <p>Sexuella kontakter eller skickat nakenbilder via internet?</p>	<p>STI/hiv/hepatit-provtagning, preventivmedelsrådgivning, kondomsamtal.</p> <p>Återbesök, samtalskontakt.</p> <p><18år överväg orosanmälan.</p> <p>Samverkan med SMC-Pilen, Preventell, KAST, Kriscentrum etc.</p>	<p>Rapporteras i högre grad av pojkar/män (ca 5%) jämfört med flickor/kvinnor (0,8%). Samband med att själv ha blivit utsatt för sexuellt våld. Samband med sexuellt risktagande, antisocialt beteende, att vara upplagen av sex (19, 20).</p>

Appendix 3. Content of SEXIT training, version 1.0

(in Swedish)

Upplägg av SEXIT-utbildning för mottagningspersonal

Var: Clarion Hotel Post i Göteborg.

När: Göteborg, onsdag 2 mars 2016, kl. 08.15–15.15.

Vem: All mottagningspersonal på deltagande ungdomsmottagningar (UM), även enhetschefer och samordnare/utvecklare.

Utbildare: Sofia Hammarström, Karin Stenqvist och Emma Svanholm.

8.15–8.30 (15min) Presentationsrunda

Uppmana deltagarna att ställa frågor löpande. Påminn om att denna utbildning är startskottet, Emma Svanholm är tillgänglig för handledning även under pilotmånaden.

8.30–8.45 (15min) Kort intro till projektet SEXIT (Sofia)

Bakgrund (KSH:s arbete, RUG-projektet, HVB), projektanslag, deltagare, projektets upplägg, pilot och vad händer sedan. Utvecklingen är en lång process, det kommer bli problem - det är meningen. Man kan inte bedöma hela lösningen ännu, detta är ett första steg.

Förmedla till UM att det är viktiga eftersom de är vana vid SRHR och har en viktig möjlighet till tidig upptäckt (som redan ingår i deras uppdrag), och att utvecklingen av SEXIT inte blir bra utan dem. Vill ha deras uppfattning, bara de kan säga hur det fungerar på mottagningen.

8.45–9.30 (45 min) Bakgrundsforskning och genomgång av frågorna i SEXIT (Karin)

Vikten av att fånga upp utsatta individer tidigt. Varför vi valt frågorna och vilka svar i SEXIT som tyder på risk för sexuell ohälsa.

09.30–10.00 (30 min) Paus/kaffe

10.00–10.45 (45 min) Våga fråga och hantera svaret, med fokus på sex mot ersättning/ sex mot sin vilja (Emma)

Grundläggande, utifrån ”det gäller en av fem” materialet. Definitioner och begreppsförklaring. Inklusive självskada och våld i nära relation.

Lyfter fram Socialstyrelsens webbutbildning och skriften Våga fråga. Vad är viktigt att tänka på vad gäller bemötande och förhållningssätt när man pratar om/får reda på svåra saker? Viktigt att våga ta emot förtroendet, inte bara skicka vidare. Utred för att öka chansen att ungdom kommer tillbaka. Generalisera och avlasta skuld/skam. Den terapeutiska effekten av att bara få berätta (Traumamedveten omsorg).

10.45–11.45 (60 min) Följdfrågor och åtgärder (gruppövning)

Deltagarna får i tre blandade grupper diskutera och utveckla en halvfärdig *SEXIT-guide för användare*. Grupperna får kolumnerna ”Frågor”, ”Följdfrågor” och ”Åtgärder” från SEXIT guiden för användare, på stora A3 papper som de sedan kan komplettera med fler förslag på följdfrågor, åtgärder och andra viktiga saker att tänka på. Karin, Emma och Sofia roterar bland grupperna och ser till att de är på rätt spår och inte fastnar.

11.45–12.30 (45 min) Lunch

12.30–13.00 (30 min) Forts. Följdfrågor och åtgärder

Presentation av gruppuppgift i storgrupp (Sofia dokumenterar).
Genomgång av orosanmälan till socialtjänsten.

13.00–13.45 (45 min) Rutiner på mottagningen under pilotmånaden (Sofia, Karin)

Forskningsrutiner: informerat samtycke, bortfallsregistrering, förvaring av formulär etc.

SEXIT-rutiner: Affischer i väntrummet, skärm i väntrum/besöksrum, rutin vid Drop-in/akuta besök/bokade besök. Ev. andra praktiska anpassningar.

13.45–14.15 (30 min) Iscensättning av ett besök (Sofia och Emma)

Spelar upp ett fiktivt besök, inklusive de praktiska rutinerna. Från det att man informerar i väntrummet till att man lägger ifyllda SEXIT i kassaskåpet.

14.15–14.30 (15 min) Fika

14.30–15.00 (30 min) Avslutning och obesvarade frågor (Sofia)

Stöd under pilotmånaden: Allt material finns på mottagningen. Mail- och telefonsupport ges av projektledare Sofia, samt medicinskt kunniga Emma Svanholm. Fysisk handledning/ besök på mottagningen sker av Sofia under första veckan.

15.00–15.15 (15 min) Utvärdering (Sofia)

Skriftlig anonym utvärdering av utbildningsdagen samt Readiness assessment formulär.

Appendix 4. The SEXIT readiness assessment

How do you respond to the following statements?

1. It is possible to prevent STIs and unwanted pregnancies through early detection of sexual risk-taking and exposure among people who visit the youth clinic
 - 1 ☐ *Completely agree*
 - 2 ☐ *Partially agree*
 - 3 ☐ *Partially disagree*
 - 4 ☐ *Completely disagree*

2. It is possible to prevent (reduce the risk) that people are exposed to (some types of) sexual violence through early detection of sexual risk-taking and exposure among people who visit the youth clinic.
 - 1 ☐ *Completely agree*
 - 2 ☐ *Partially agree*
 - 3 ☐ *Partially disagree*
 - 4 ☐ *Completely disagree*

3. In your opinion, is there a need for more systematic screening for sexual risk-taking and exposure at the youth clinic in comparison with today?
 - 0 ☐ *No*
 - 1 ☐ *Yes*

4. A questionnaire can be a tool for early detection of people at risk of sexual ill health caused by sexual risk-taking and exposure.
 - 1 ☐ *Completely agree*
 - 2 ☐ *Partially agree*
 - 3 ☐ *Partially disagree*
 - 4 ☐ *Completely disagree*

5. A questionnaire measuring sexual risk-taking and exposure can be a useful tool for me working at the youth clinic, in consultation with visitors who are at risk of sexual ill health caused by sexual risk-taking and exposure.
 - 1 ☐ *Completely agree*
 - 2 ☐ *Partially agree*
 - 3 ☐ *Partially disagree*
 - 4 ☐ *Completely disagree*

6. If a questionnaire is confirmed to be an effective tool for early detection of people at risk of sexual ill health caused by sexual risk-taking and exposure, I am willing to use the questionnaire as part of the consultation.

- 1 ☐ *Completely agree*
 2 ☐ *Partially agree*
 3 ☐ *Partially disagree*
 4 ☐ *Completely disagree*

7. Do you believe that the use of SEXIT will affect the number of sexually risk-taking youth that are identified at your clinic?

- 1 ☐ *We will identify more*
 2 ☐ *We will identify the same number as today*
 3 ☐ *We will identify less*

8. How do you feel about starting to work with SEXIT?

	<i>Completely agree</i>			<i>Completely disagree</i>	
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
a) It feels important	☐	☐	☐	☐	☐
b) It feels fun	☐	☐	☐	☐	☐
c) It feels time-consuming	☐	☐	☐	☐	☐
d) It feels difficult	☐	☐	☐	☐	☐

9. How confident do you feel about your ability to make correct decisions about follow-up questions and actions when sexual risk-taking is identified through SEXIT?

- 1 ☐ *Very confident*
 2 ☐ *Partially confident*
 3 ☐ *Neither confident nor insecure*
 4 ☐ *Partially insecure*
 5 ☐ *Very insecure*

10. In total, how prepared do you feel about the forthcoming pilot implementation of SEXIT?

- 1 ☐ *Very well prepared*
 2 ☐ *Well prepared*
 3 ☐ *Prepared*
 4 ☐ *Not sufficiently prepared*
 5 ☐ *Not prepared at all*

Papers

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FACULTY OF MEDICINE AND HEALTH SCIENCES

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