The Emergency Contraceptive Pill
– a Second Chance

Knowledge, Attitudes and Experiences
Among Users and Providers

BY

GUNILLA ANEBLOM
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Abstract

Aim The overall aim of this thesis was to study knowledge, attitudes and experience of emergency contraceptive pills among women and providers. Methods Both quantitative and qualitative methods were used. Focus-group interviews were conducted with teenage-girls (I) and with women who had purchased ECP without prescription (IV). Self-administered waiting-room questionnaires were administered to women presenting for induced abortion in three large hospitals (II, III), and after the deregulation of ECP, a postal questionnaire was sent to pharmacy staff and nurse-midwives in three counties in mid-Sweden (V). Results Overall, women showed high basic awareness of ECP although specific knowledge such as the level of effectiveness, time-frames and how the method works was lacking. Approval of the method was high and most women were positive to use the method if they needed. Contradictory views as to whether ECP undermines contraceptive behavior were expressed. As many as 43% of women requesting induced abortion had a history of one or more previous abortions. Among the abortion applicants, one out of five, 22%, had previously used ECP and 3% had used it to prevent the current pregnancy. Media and friends were the two most common sources of information on ECP. Half of the women, 52%, were positive to having ECP prescription-free. Those women who had purchased ECP in a pharmacy without prescription, appreciated this possibility, and the major benefits expressed were time saving aspects. No severe side-effects were reported. The women's experiences of interaction with pharmacy staff were both positive and negative. The importance of up-to-date information about ECP and the OTC-availability from the health care providers was emphasized. Both pharmacy staff and nurse-midwives had positive attitudes towards ECP and the OTC availability. Of pharmacy staff, 38% reported that they referred women to nurse-midwives/gynecologists for further counseling and follow-ups. The need for increased communication and collaboration between pharmacies and local family planning clinics was reported by both study groups with suggestions of regular meetings for information and discussions. Conclusions The results suggest that ECP is still underused and that more factual information is needed before the method is becoming a known, accepted and integrated back-up method to the existing family planning repertoire. Longitudinal research to assess the long-term effects of ECP is needed.

Keywords: focus-group, emergency contraception, attitudes, induced abortion, OTC, content analysis, pharmacy, nurse-midwives

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V Aneblom Gunilla, Stålsby Lundborg Cecilia, Carlsten Anders, Eurenius Karin, Tydén Tanja. Emergency contraceptive pills over-the-counter; practices and attitudes of pharmacy and nurse-midwife providers. (Submitted)

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<tr>
<td>ECP</td>
<td>The emergency contraceptive pill</td>
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<tr>
<td>MPA</td>
<td>Medical Product Agency</td>
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<tr>
<td>OC</td>
<td>Oral contraceptive</td>
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<tr>
<td>OTC</td>
<td>Over the counter (without prescription)</td>
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<td>RFSU</td>
<td>The Swedish Association for Sexual Education</td>
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<tr>
<td>STI</td>
<td>Sexually Transmitted Infection</td>
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<tr>
<td>TRA</td>
<td>Theory of Reasoned Action</td>
</tr>
<tr>
<td>TBP</td>
<td>Theory of Planned Behavior</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>Attitude</td>
<td>A disposition to respond favorably or unfavorably to an object, person, institution, or event.</td>
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<td>Young women</td>
<td>young adult women aged 20-29</td>
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</table>
Introduction

In Sweden, the midwife has a unique position in performing the main part of all contraceptive counselling [1]. In 1998, 77% of all visits (390 000) to youth clinics were made to nurse-midwives [2]. During the 1990s a new contraceptive method has been introduced in Sweden, the emergency contraceptive pill (ECP), an emergency method to be used after an unprotected intercourse to prevent pregnancy. In April 2001, ECP was approved as a prescription-free product and thus available 'over-the-counter' in pharmacies. Internationally, there has been a debate whether increased knowledge and increased availability of ECP can affect the number of unwanted pregnancies to any considerable extent. Concerns about its possible effects on regular use of contraceptives and of the incidence of sexually transmitted infections (STI) have also been expressed [3]. For midwives working in the field of reproductive health these issues are of high relevance.

Emergency contraception

Emergency postcoital contraception can be defined as the use of a drug or device to prevent pregnancy after intercourse. In the 1970s a combined estrogen-progestogen regimen, often referred to as the Yuzpe regimen after its inventor, the Canadian gynaecologist, Albert Yuzpe, was introduced. Postcoital insertion of an intrauterine device (IUD) for emergency contraception was reported during the same period. In Sweden, The Association for Sexual Education (RFSU) actively advocated emergency contraception and spread information to professionals and to the public. They approached the Medical Products Agency (MPA) with a request that the MPA should consider registering ECP, and also contacted pharmaceutical companies requesting them to apply to the MPA for the Yuzpe regimen to be registered as ECP. In April 1993, the MPA officially recommended the method as an emergency contraception (ECP) method for the prevention of unintended pregnancies (250ug levonorgestrel/50 ug ethinylestradiol given in two separate doses). However, MPA did not consider that nurse-midwives should prescribe ECP and nurse-midwives
continued to cut out 4 pills from a blister of Follinett (250 ug levonorgestrel/50 ug ethinylestradiol) to hand out to their patients. Accordingly, the dedicated product (Tetragynon) was withdrawn from the market after two years due to the low rate of prescriptions. It was not until 1995 that nurse-midwives were officially entitled to prescribe and provide ECP.

Another ECP method, using a progestogen-only preparation (Norlevo™, 0.75 mg levonorgestrel in two separate doses) was approved in Sweden in May 2000, and the method was reclassified as an ‘over the counter’ (OTC) product in April, 2001. The levonorgestrel-only treatment has shown to be more effective and also cause less side-effects like nausea and vomiting than the combined Yuzpe regimen (nausea 16% to 46% and vomiting 2.7% to 22.4% [4]. Other reported side-effects are dizziness, fatigue, headache and heavy bleedings. Both methods are recommended for use within 72 hours of unprotected intercourse. Further results from the WHO study have shown that levonorgestrel prevented 85% of expected pregnancies, significantly higher than Yuzpe (57%) and that the efficacy of both methods was highest when they were used as early as possible after intercourse (95% within 24 hours, 85% 24-48 hours, 58% if used between 48 and 72 hours). Recently, the efficacy and side-effects of (1) levonorgestrel as a single-dose (1.5 mg), (2) levonorgestrel in two separate doses of 0.75 mg, and (3) a single dose of 10 mg mifepristone, were compared in a randomised, double-blind multinational trial [5]. All three regimens were shown to be very efficacious for ECP, and it was found that two doses of 0.75 mg levonorgestrel can be substituted by a 1.5 mg single dose. The pregnancy rates did not differ (1.47% in the single-dose group and 1.77% in the two-dose group) and the side-effects were mild and comparable in both groups.

According to clinical guidelines, the average woman is potentially fertile between days 10 and 17 of her menstrual cycle, assuming that ovulation occurs exactly 14 days before the next menses, and that women are fertile for several days before and after ovulation. However, new estimates based on a prospective study of healthy women were presented by Wilcox et al. [6], showing that the timing of the fertile window is highly variable, even among women who regard their menstrual cycle as regular, and more than 70% of women are in their fertile window before day 10 or after day 17 of their cycle, concluding that there are only few days of the menstrual cycle during which some women are not potentially fertile.

The mode of action of ECP is still not fully understood, but the most important mechanism seems to be the suppression of ovulation and thus prevention of fertilization if treatment precedes ovulation [7]. This result was confirmed in a study by Durand and associates, when studying the effects of levonorgestrel at different stages of the ovarian cycle [8]. They also found
that when levonorgestrel is given peri- and post-ovulatory, it does not impair corpus luteum function or endometrial morphology. In a recently published review article by Croxatto [9], it is concluded that ECP administered during the follicular phase, alters the ovulatory process in women by suppressing the LH-peak, follicular rupture or luteinisation. No evidence supports the hypotheses that levonorgestrel alters endometrial receptivity or impedes implantation. In a meta-analysis of fetal genital effects of first-trimester sex hormone exposure, it was concluded that ECP is not teratogenic and carries no risk of damage to an embryo [10].

The antiprogestin mifepristone is another postcoital contraception that has been evaluated in clinical trials and has shown to be even more effective than levonorgestrel, given in a single 10 mg dose, but was associated with a higher incidence of delay in the onset of the subsequent menstrual period (>3 days). The insertion of an IUD is another option that can be used up to 5 days after the estimated time of ovulation and can be left in the uterus as a long-term regular contraceptive method [11].

Knowledge of ECP

Since the ECP is an emergency method with recommended use within 3 days, knowledge and acceptance of it need to be high, and it must be easily available. Studies in different countries have shown high awareness of ECP among adolescents and university students [12-15], women in general [16, 17], and women seeking induced abortion [18-22]. However, the same studies also showed that more specific knowledge such as time limits, efficacy, how the regimen works and where ECP can be acquired, are frequently lacking. Several surveys have shown younger women to be better informed and they are more frequent users of the method [13, 16, 23].

Results from two surveys in Sweden showed that ECP is quite well known to young women and teenagers but that specific knowledge, such as the time span for optimal efficacy and mode of action, is lacking, thereby contributing to disbeliefs and ethical misgivings about the method [12, 24].

Use of ECP

The use of ECP varies between countries. In Sweden, the reported use of ECP varies between 25% (1996) [24] to 49% (1999) [25]. The higher rate of use was reported by high school girls 17 years of age in a low income area in suburban Stockholm. In Finland, 12% of a random sample of Finnish women and men had ever used ECP, the proportion of users was highest in the youngest age group, 30% (18-29 years of age) [23]. In the UK, according to the Office for National Statistics of 1999, 11% of the British women who
knew about ECP had used the method during the previous two years. A third of women aged 18-19, a quarter of women aged 20-24 and 4% of women aged 40-49 have used the method [26]. Two British studies reported ECP use from 16% [27] to 67% [28]. In a national representative sample of teenagers in Switzerland (16-20 years), 20% reported having used ECP [29]. In other European studies, the reported ECP use varies from 9% to 56%, depending on the studies [22, 30, 31]. In the United States, finally, Delbanco and Vaughn have reported that approximately 1% of American women > 18 years of age have ever used ECP [32, 33], but in one survey from San Diego 15% of women aged 18 and older, reported ECP use in the past [34].

Several surveys from different countries have shown a discrepancy between knowledge and use of ECP among abortion applicants. Young et al. [19] showed that 72% of women requesting abortion were aware of ECP but still only 7% had used it in an attempt to prevent the current pregnancy. McDonald & Amir [21] found that 29% of abortion applicants had ever used ECP and 9% had used it at the time of fertilization. Of women requesting induced abortion in Denmark, 45% had adequate knowledge of ECP but only 7% had used it in the present pregnancy [22].

Attitudes to ECP among users and providers

In a questionnaire study among students in Princeton [14] the majority were positive to the use of ECP and thought they should be easily available, 85% thought that the health centre at the university could give out pills. Other studies have shown varied attitudes to the deregulation of ECP. Positive attitudes towards deregulation of ECP, among women who had ever used the method, were found in studies from New Zealand [19] and from Australia [21]. More restrictive attitudes towards deregulation of ECP were found in San Diego [34], of women who had used ECP, and in New York City [35], where women who requested ECP were concerned about widespread use among adolescents. This same concern about irresponsible attitudes towards contraception among younger women was expressed in an interview study among women aged 18-29 in the South West of England [36] although most participants were in favour of prescription-free ECP, perceived as quick, convenient and anonymous.

Results of providers’ attitudes towards ECP and OTC availability have been found to be both positive and negative. Sherman et al. [37] found that ob/gyn providers in San Diego, with experience of prescribing ECP, had favorable attitudes to ECP and agreed that ECPs should be available OTC. In South Africa, 69% of pharmacists were in favor of having ECP as an OTC-product, and 67% felt it was important to increase public awareness regarding ECP [38]. In the UK, community pharmacists were asked about
counseling in relation to sexual health and about their knowledge of local genitourinary medicine services. Forty-four percent had received training in post-coital contraception but 29% were not prepared to bring up the issue of sexually transmitted infections (STI) with clients of both sexes and only 21% had ever advised a client to visit a local clinic [39]. Overall negative attitudes were found by Barrett and Harper when interviewing community pharmacists and GPs in London about the deregulation of ECP [40]. Most of the participants focused entirely on women’s sexuality and the consequent sexual ‘irresponsibility’ which, they believed, would ensue from removal of control on ECP. The typical user was described as a young, single woman, who took ECP ‘like a smartie’, and was prepared to lie to get her supplies. Finally, results by Kettyle [41] showed that 42% of 300 American nurse-midwives disagreed and 10% were unsure about ECP OTC, and Gold and co-authors [42], reported that 77% of pediatricians and obstetrician-gynecologists did not agree with prescription-free ECP.

Sale statistics

Before the approval of levonorgestrel as a prescription-free product, the only sale statistics were ECP on prescription. According to sale statistics from Apoteket AB [43], the total sale of Norlevo from April to December 2001 was 77,617 doses compared with 103,812 doses in 2002, an increase in sale by 34%. The proportion of levonorgestrel distributed OTC was 88% of the total volume in 2001 and 91% in 2002. An increase in sale, by number of doses, of 38% was reported from 2001 to 2002 (April-December). During the first six months in 2002 the total sales of Norlevo fluctuated between 8000 and 12000 doses with the peak period in July and August.

Sex education

In 1933, RFSU was founded by Elise Ottesen-Jensen, a pioneer in, at that time, a radical organization with demands for liberalization of the abortion law, access to contraceptives and sexuality education in school [44]. In 1942, sex education was a voluntary subject at school but in 1955 it became part of the Swedish school curriculum. The subject has been revised and re-named to Sexuality and Interpersonal Relations, and according to the Swedish school law, it is aimed to be a domain of high priority to all school nurses. In a national survey in the late 1990s it was reported that 10% of the schools, relied on school health personnel for sex education [45]. The Swedish Board of Education made an evaluation of this education in 2000 and found great
differences in quality, both nationally and regionally [46]. The National Institute of Public Health concluded that qualitative and quantitative improvements were required, with a need for further education of school personnel and recommendations that class and gender related differences in sexual behaviour were to be addressed by supportive efforts for adolescents at risk [47].

Contraceptive counseling

In accordance with the legislation on abortion in 1975 great efforts were made in order to provide easily available contraceptive counseling free of charge for any woman and man requesting it. Nurse/midwives were authorized to prescribe oral contraceptives (OCs) and to insert intrauterine devices (IUDs) [1]. Contraceptive services are provided both by midwives in public health and by private practitioners. The main provider group are nurse-midwives, accounting for 80% of the services. Maternal health care (MHC) (introduced in the 1930s) is the dominant provider of integrated sexual and reproductive health services in the Swedish primary health sector. Nurse-midwives provide contraceptive services and abortion counseling, they test, counsel and refer for treatment of STIs and HIV and they test for early detection of cervical cancer. For adolescents, contraceptive services and information on STIs are also offered at youth clinics.

Today, there are more than 200 youth clinics in the country offering counseling on sexuality, testing, treatment and contraceptive services. The upper age limit varies between county councils, but is usually between 20 and 23 years. Most clinics are located in the main cities and towns and are staffed by nurse-midwives, obst/gyn physicians/venereologists, and social workers [48]. In addition to personal medical services and counseling, outreach activities and developing contacts with personnel in local schools are important features of the work of the youth clinics. By visiting schools and participating in sex education and by receiving school classes at the clinic, the staff makes valuable contacts with young people – including young men. The most common choices for young people are condoms or oral contraceptives, and many county councils subsidise contraceptive pills for the youngest women and condoms are often subsidised or free of charge in youth clinics.
Abortions in Sweden and other countries

In 1975 in Sweden, abortion became free upon request of the woman until the 18th week of gestation. Since then the number of abortions have varied between 30 and 38 000, with 33 900 abortions being performed in 2002 [49]. The relationship between the birth rate and the abortion rate has been more or less constant since the beginning of the 1980s resulting in approximately every fourth pregnancy being terminated with abortion. The highest rates are found in the three metropolitan areas, Stockholm, Göteborg and Malmö.

The vast majority, 95% of all induced abortions, are performed in the first trimester. Most abortions are performed in the age group 20-29 years. Births among teenagers aged 15-19 are becoming increasingly uncommon. In 1970, 43 per thousand gave birth compared with 6.7 per thousand in 1998 [48]. Of all teenage pregnancies, approximately 70% have been terminated with an induced abortion during the last 20 years [49]. This change was related to an expansion of family planning services, the development of youth health clinics and the availability of subsidised oral contraceptives. However, since 1995, teenage abortions have increased by 45 %, from 17/1000 to 25/1000 in 2002 (33). Possible reasons, such as less use of OCs, due to fear of adverse effects, and increased condom use as a means of safer sex with regard to STI, were discussed by Greydanus et al. [50].

Medical abortion has been available in Sweden since 1992 and is currently used by around 40% (great regional differences) of the women having a first trimester abortion [51]. Repeat abortion is a common phenomenon in Swedish society. During the last five years, the proportion of repeat abortion in the age group 20-24 years amount for 30.5% and in total to 37% [49].

In comparison with the other Nordic countries, in 1999 the general abortion rates were lowest in Finland (9/1000) followed by Denmark, Norway and Iceland (13/1000), all with lower rates than Sweden [49]. However, in the teenage group, 15-19 years, Iceland had the highest abortion rates [52].
Reasons for abortion and the decision-making process

Research has shown that the abortion decision is both complex and difficult. Ambivalent feelings about the pregnancy have been found both among women who decided to continue their pregnancy as well as among those who decided to have an abortion [53-56].

The reasons for induced abortion have been reported in many studies, with several reasons often cited [53-62]. More than half of the women in a Swedish study stated more than one reason for requesting an abortion [53]. The most common reasons were problems in the relationship, the timing of the pregnancy, including if the relationship with the partner was temporary or had lasted too short for the woman to rely on it. Other studies, both from Sweden and from other countries have shown relational aspects to be common reasons for abortion [58, 60, 62].

Glander et al. found that financial matters were a dominant reason for the abortion decision in the USA [62]. This was also the most common reason in an Australian study from 1995 [58]. Sixty percent of the women stated economical concerns as their main reason for abortion, whereas in Törnbom’s Swedish study only 12% of the women stated economy as an important matter for their decision [53, 56].

Contraceptive practices among women requesting induced abortion

The contraceptive habits among women requesting an induced abortion have been addressed in several studies [57, 61, 63-66]. The majority of women claimed to have sufficient knowledge concerning contraception and had also been given professional advice apart from sexual education in school [61, 64, 65].

Many abortion studies show that a high percentage of women did not use any contraceptive method at the time of conception, 25-70% [61, 64, 65, 67, 68]. In a follow-up study one year after legal abortion [69], three-fourths of the women had continued using the contraception they had chosen after the abortion. Only 12 % did not use any effective method at follow-up.

Attitudes, behavior and theoretical models

The concept of attitude has been the focus of attention in explanations of human behavior in social psychology. An attitude is a disposition to respond favorably or unfavorably to an object, person, institution, or event. Like
personality traits, attitudes are hypothetical constructs that, being inaccessible to direct observation, must be inferred from measurable responses [70]. Attitudes can be considered as an interaction or a combination between affective (I like), cognitive (I perceive) and behavioral (I think) aspects. The cognitive aspect refers to the individual’s information regarding an issue, the behavioral aspect refers to the acts that an individual performs or advocates and the affective aspect refers to the valuations of the individual. Within these aspects, it is also useful to separate verbal from nonverbal responses. An attitude can either be positive, negative or ambivalent. Factors that can be presumed to affect an individual’s attitudes are: age; gender; ethnicity; knowledge; norms and values in society, and his/her own experiences.

In attitude and behavior research, different theoretical models are often utilised as frameworks to understand, explain and predict human behavior. The Fishbein-Ajzen Model “theory of reasoned action” (TRA) a medium-range prediction model of behavior, deals with a person’s attitude and the social norm towards a chosen behavior. Instead of treating affection, cognition and behavior as three components of attitude, they treat these three types of response tendencies as independent constructs of belief, attitude, and intention. According to the theory, attitudes follow reasonably from the beliefs people hold about the object of the attitude, just as intentions and actions follow reasonably from attitudes. The attitude is defined as a person’s positive or negative evaluation of performing certain behavior. In their model “salient beliefs” (the beliefs a person actually holds) are the immediate determinants of the person’s attitude. The social norm refers to the perceived social pressure of a relevant reference group, i.e., perceptions of others’ expectations of whether you should engage in certain behavior.

According to TRA there are three behavioral predictors: (1) attitude toward the behavior, (2) subjective norms, and (3) behavioral intention. The behavioral intention is based on the person’s attitude toward the behavior and the subjective norms associated with performing the behavior. This model was later extended into the theory of planned behavior (TPB), where a third determinant, perceived behavioral control was incorporated [70]. Perceived behavioral control reflects the extent to which a person feels capable of performing the behavior under consideration, and also may reflect external (e.g., social support of others) and internal factors (e.g., skills, information, emotions). Perceived behavioral control has been shown to enhance the prediction of both behavioral intention and actual behavior [71]. The behavior occurs when the attitudes towards behavior and social influence are positive, and when there is enough control to be able to perform the behavior. People who believe that they have neither the resources nor the opportunities to perform a certain behavior are unlikely to
form strong behavioral intentions to engage in it even if they hold favourable attitudes toward the behavior and believe that important others would approve of their performing the behavior. The theory of planned behavior is a general model designed to deal with behaviors over which people have a high degree of volitional control. The theory recognizes the possibility that many behaviors may not be under complete control, and the concept of perceived behavioral control is added to handle behaviors of this kind.

Several models of the relation of attitude stability and age have been proposed [72]. One model that assumed that the family was the most potent of influences on attitudes, and that children tend to inherit their attitudes from their parents show a high degree of stability from early adulthood throughout the remainder of the lifecourse. The “consensus” view seems to be that young adults are quite flexible and open to change, but that after some point early in adult life, attitudes grow in strength, stabilizing at some relatively high level of stability, and persist throughout the remainder of life [72]. By contrast, another model suggests that after midlife, there is a process in which the high levels of attitude are reversed, with growing attitudinal flexibility into later life [72].

These theoretical models are based on analysis of the determinants of behavior and are tested by regression methods and correlation statistics. The usefulness of these theoretical variables has been tested in research of sexual behavior. Most studies of the relationship between intentions and sexual behavior concern risk behavior and condom use. In results from data of a wide range of studies using these theories, condom use is believed to be influenced by self-efficacy, outcome expectancies, behavioral intentions, subjective norms, perceived behavioral control, and knowledge.

The Fishbein Ajzen model was also tested in a study of pharmacist behavior in community pharmacies [73], and the findings provided support for the attitude-subjective norm model in predicting the behavior of the counselling activities as verbal instruction and the length of the encounter time, but written instructions and pharmacist approachability were only weakly influenced by either attitudes or subjective norms.

These theories have been criticised because of their weak explanatory power and the limited ability of the analyses to interpret the facts concerning behavioral changes and their failure to explain the chain of elements leading up to a decision [74]. Findings of a literature review were that social cognitive models like TRA and TBA explained 20-45% of variance in behavior and were successful in predicting sexual behaviors in adults [75-77].

In addition to theoretical individual-oriented models, behavior is often influenced by psychosocial, behavioral and demographic variables. A relation-based perspective, focusing on interactions between partners and
among social networks, taking into account the partners’ interactive behavior and meanings rather than the individuals’ own characteristics, is found in many qualitative studies of heterosexual sexuality [78-81]. The qualitative studies go further in explaining and understanding why attitudes and knowledge about risk behavior and safe sex do not necessarily predict behavior. They address the symbolic dimensions of sexual behavior, and show how people’s actions often are constrained by implicit social meanings. They show how the behavioral outcome is frequently the result of a complex interaction of social factors and rarely the subject of explicit decisions; that gender dimensions often are embedded in sexual relations and affect beliefs and practices and the creating of sexual identity.

To fully adopt a specific theory seems realistic only in theory. In practice, the boundaries between different approaches are less clear. To define and distinguish clearly the indicator of behavior to either the individual’s attributes or those of the relationship have shown to be more or less impossible. The two approaches does not seem to be really opposed to each other since both individual and relational factors must be taken into account when discussing and explaining attitudes and behavior.

Caring and sexual health

The key words in the counselling role of nurse-midwives in contraception and abortion care, according to literature, seem to be ‘support’ and ‘respect’. To assist women coming for counselling and guidance requires professional qualities and skills of the nurse-midwife. In many cases the request can be evident and incontrovertible and a brief consultation with an opportunity to put questions and an offer of follow-up is sufficient. However, many women are ambivalent and live in complex reproductive circumstances and are in need of more professional care. In these circumstances, a holistic approach to sexual health seems to be appropriate. The traditional way for health care professionals is often to view themselves as experts with a major role to teach patients. The medical authority over sexual behavior has a long history and the medicalisation of sexual behavior sometimes ignores the social and interpersonal dynamics of sexual relationships. Nurse-midwives, having a long tradition in contraceptive counselling and in discussing sensitive sexual health issues, play a key role in developing and improving the care to be user and women-friendly. In this process, and for establishing appropriate preventive measures, we need to identify beliefs, attitudes and needs of the users, and of the care-givers.
Outline of the thesis

This thesis is based on the perspectives of women and providers regarding a new contraceptive method, the emergency contraceptive pill. Both quantitative and qualitative methods were used in this thesis in order to attain both broad as well as specific knowledge. The initial study of knowledge and attitudes to ECP among teenage girls produced questions, that led into conducting the second study of knowledge, use and attitudes to ECP of women seeking induced abortion, and to expand the method of data collection. The reclassification of levonorgestrel to a non-prescription product led us into conducting the fourth study of women’s experiences of accessing ECP without any intermediaries, and finally, to explore pharmacy and nurse-midwife providers’ views of ECP and the OTC-availability in the fifth paper.
Aims of the thesis

The overall aim of the thesis is to contribute to the knowledge and understanding of young women’s as well as the provider’s perspectives regarding the provision and use of ECP.

Specific aims are:
1/ to describe knowledge and attitudes of “emergency contraceptive pills” among teenage girls (Paper I)
2/ to explore the reasons for induced abortions, contraceptive habits, reasons for not using contraception, reasons for contraceptive failure and planned contraceptive methods after abortion among women requesting induced abortion (Paper II)
3/ to explore knowledge, use and attitudes towards emergency contraception among women requesting induced abortion (Paper III)
4/ to describe women’s knowledge, experiences and attitudes toward purchasing and using ECP as an OTC product (Paper IV)
5/ to assess practices and attitudes of pharmacy personnel and nurse-midwives, towards ECP and the OTC-availability (Paper V)
Methods

An overview of the studies is presented in Table 1.

Table 1. Design methods, data sources and participants of the included studies

<table>
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<th>Design, method</th>
<th>Data sources</th>
<th>Study groups</th>
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<tr>
<td>I</td>
<td>Descriptive explorative, qualitative,</td>
<td>Focus-group interviews</td>
<td>24 teen-age girls from 2 upper secondary schools in Uppsala county council (practical and theoretical program)</td>
</tr>
<tr>
<td>II-III</td>
<td>Descriptive, comparative</td>
<td>Waiting room questionnaire</td>
<td>591 women presenting for induced abortion in three large hospitals in Uppsala, Västerås and Örebro</td>
</tr>
<tr>
<td>VI</td>
<td>Descriptive, explorative, qualitative</td>
<td>Focus-group interviews and questionnaire</td>
<td>27 women (Md age 24) in Uppsala who had bought and used prescription-free ECP</td>
</tr>
<tr>
<td>V</td>
<td>Descriptive, comparative</td>
<td>Postal questionnaire including Likert scale</td>
<td>271 pharmacy personnel and 163 nurse-midwives from three counties in mid-Sweden (Uppsala, Västmanland och Dalarna)</td>
</tr>
</tbody>
</table>

Population and data collection

Paper I
In Uppsala, two large upper secondary schools with both vocational and theoretical programs were selected. The study population included 12 girls from a theoretical program and 12 girls from a vocational program, 16-17 years old. Four focus group interviews were conducted and all girls voluntarily applied to participate in the study.

Papers II and III
The study was based on 518 women, consecutively visiting family planning clinics requesting induced abortion at three large hospitals in the cities of Uppsala, Västerås and Örebro in Sweden, during the period of February to June 2000.

Paper IV
The study population (n=27) included Swedish-speaking women who had bought ECP without prescription in a pharmacy. The participants were recruited in Uppsala from May to August, 2001. The recruitment was initially performed via pharmacists in Uppsala who gave out an invitation along with each package sold of “Norlevo”. Eight women accepted and returned the invitation. The recruitment was complemented by an announcement in a magazine for students at Uppsala University; women who volunteered participation were included consecutively.

Four focus-group interviews were performed and each interview lasted approximately 60 minutes and the first and the second author alternated between the role of moderator and observer.

Paper V
A sample of 24 pharmacies, together with all clinics with family planning services (n=68) in three counties in mid-Sweden, was selected. Questionnaires (n=237) were mailed to participating pharmacies together with a covering letter explaining the purpose, that participation was voluntary, and instructions on how to complete the survey. All nurse-midwives (n=163) were mailed questionnaires together with the covering letter, along with a pre-stamped return envelope.
Measure instruments

Focus group method (Papers I and IV)

A focus group can be defined as an in-depth, open-ended group discussion that explores a specific set of issues on a predefined and limited topic [82] and consists of 4-12 participants. Focus groups are a direct method of obtaining rich information within a social context. These data usually include attitudes, perceptions and opinions of participants. The focus group method can be used to examine not only what people think but how they think and why they think that way. Group processes can help people to explore and clarify their views in ways that would be less easily accessible in a one-to-one interview. Group discussions are especially appropriate when the interviewer has a series of open-ended questions and wishes to encourage research participants to explore the issues of importance to them, in their own vocabulary, generating their own questions and pursuing their own priorities [83]. They do not provide the same amount of information from each interviewee, but they often give different perspectives on the topic.

Group interaction is an integral part of the method with people encouraged to talk to one another, asking questions, exchanging anecdotes and commenting on others’ experiences and views, and the aim of the method is therefore not to reach an attitudinal consensus from focus group data. Focus groups are repeated in a series of discussions, three to six times with similar participants, in order to detect patterns and trends across groups as well to provide saturation [84]. A moderator leads the interview following a topic guide and interaction between members is encouraged. An observer will take field-notes throughout the discussion, and the entire session will be recorded on an audiocassette and subsequently transcribed.

Moderating the focus group

The personality, social identity and interpersonal skills of the focus group moderator will influence powerfully the process of interaction that takes place. A particular difficulty lies in striking the right balance between an active and a passive role. Conveying an impression of ‘expertise’ is likely to be inimical to disclosure from participants: the moderator should indicate that he or she is there to learn from the participants, rather than the reverse [85]. As far as possible, the moderator should ensure that dialogue occurs among the group members, rather than between them and the moderator [86]. By adopting a relatively passive role and allowing discussion to be led primarily by the group participants, the moderator can facilitate the expression of potentially sensitive or emotive issues, which might not have
been forthcoming in a one-to-one interview. In this respect, a second ‘field
note researcher’ is useful. This person can ‘stand back’ from the interaction
within the group, and pick up undue prompting on the part of the moderator.
Hague [87] suggests that the prominence and involvement of the moderator
in the proceedings of a focus group should constitute between 5 and 10% of
the resulting transcripts.

Topic guides (Papers I and IV)
A topic guide with semi-structured open-ended questions about knowledge
of (8 questions) and attitudes (4) to ECP was used in Paper I (Appendix).
The feasibility of the guide was tested in a focus group of four girls in one of
the two schools. All groups were asked the same questions but not
necessarily in the same order. Both authors were present; one conducted the
interview, and the other observed and took field notes. After the interview all
participants received two movie tickets, as an appreciation for attendance.

In Paper IV, a topic guide with semi-structured open-ended interview
questions about knowledge (2 questions), experiences (6), and attitudes (4)
about ECP were posed (Appendix). The questions were pilot tested in one
focus group of four women recruited from pharmacy invitations.

Questionnaires (Papers II, III, IV and V)

The waiting room questionnaire (Papers II and III)
At the time of the study no standard or complete questionnaire covering all
our issues existed. However, most of the questions had been used in
previous comparable studies [12, 19, 65, 88] and were combined and
adjusted to our target group. To test the face validity, the draft of the
questionnaire was discussed with experts on contraceptive topics from the
three participating clinics, before it was tested on five abortion applicants in
one of the clinics. This resulted in a few minor corrections to the
demographic questions.

The self-administered structured questionnaire comprised 37 questions
(Appendix) and was completed by all participating women before seeing the
doctor. It covered demographic data (Papers II and III), followed by
questions on contraceptive habits, the contraceptive method used at the time
of conception (if any) and one open-ended question about reasons for
contraceptive failure. The women were asked about the decision to have an
abortion, the difficulty of the decision, with whom they had discussed it, and
their main reasons for having an abortion (Paper II). This was followed by
questions regarding knowledge, attitudes and experiences of ECP, including
an open-ended question on opinions as to whether ECP should be an OTC product (Paper III). Free space was left on the last page of the questionnaire for voluntary remarks.

Paper IV
The study was part of a multi-center project, including Sweden, France, Norway, and Portugal, and the questionnaire used had originally been developed by the French researchers (Appendix). It covered demographics and questions about ECP and current contraceptive method, and was administered at the end of each session.

The postal questionnaire (Paper V)
The two questionnaires, developed specifically for this study, were based on results from previous studies of knowledge, experiences and attitudes to ECP [12, 42, 89]. The first part included questions on: demography, job experience, counseling and providing/selling of ECP, sources of information on ECP and clinical guidelines for ECP. The pharmacy staff were asked specific questions about the display of the product and referral to local clinics, and the nurse-midwives were asked about the counseling situations that included information on ECP. In the second part of the questionnaire, attitudes were measured by 23 items rated on a six-point Likert scale ranging from “Totally agree” to “Totally disagree”. The third part consisted of two questions about existing and desired collaboration and a final open-ended question on suggested collaboration between pharmacies and local family planning clinics (Appendix in Swedish).

Likert scale
A Likert scale is a widely used scaling technique, named after the psychologist Rensis Likert [90, 91]. On a Likert scale, the rater expresses an opinion by rating his agreement with a series of statements. The unique characteristic of this scale is that responses are framed on an agree-disagree continuum. The first step in the procedure for constructing a Likert scale is to develop a large pool of items relevant to the topic about which attitudes are to be assessed. These statements should clearly state different positions regarding the issue. The aim is to spread out respondents with various attitudes along a continuum. Both positively and negatively worded statements should be chosen to avoid biasing the responses.

Different domains for measuring the attitude object were defined, and items were constructed to explore the various aspects of the domains. For item-discrimination analysis, statements (41) were piloted on 23 nurse-
midwives and 23 pharmacy staff, all working outside the study area. All
participants (n=46) were given a total score. Twenty-five percent of the
high-scoring group (i.e. those with positive attitudes) and 25% of the low-
scoring group (those with negative attitudes) were identified. The mean
score of each item of both groups was calculated by dividing the mean score
of each group by the number of persons in that group. The difference of
mean scores of each item between the high and low-scoring group
determined the power of discrimination [92]. The mean value, 1.5 (range
0.5-3.0), was chosen as cut-off for including items. Finally, 23 items were
selected covering the four different domains: Reproductive health (5 items);
Information (5 items); Availability (9 items); Risk behavior (4 items). The
items belonging to different domains were mixed to avoid order effects.

Ethical approval and consent
All studies were approved by the Ethical Committee of the Medical Faculty
at Uppsala University, Sweden. The headmasters of the two schools gave
their consent to the first study (Paper I) and the heads of departments at the
three clinics approved of study two (Papers II and III).

Data analysis

Paper I
Interview data were analysed using both qualitative content analysis and by a
phenomenological approach [93]. Immediately after the interview the field
notes were transcribed, tapes were then transcribed within a week for
analysis. The analysis began with a verbatim transcription of the interviews
on tape. The field notes were used to validate the transcription when words
or sentences were indistinct. The questions of knowledge of ECP were
analysed question by question. All answers from each question from each
group were extracted and grouped together. All answers were assigned as
general knowledge, specific knowledge, and misconceptions. General
knowledge was defined as the most important basic knowledge while
specific knowledge was identified as more detailed knowledge like the exact
timeframes, the efficacy of the method and so on. All recording units were
categorized as general and specific knowledge or misconception. The results
of each question were presented with summaries of the content of the
answers together with illuminating quotes.
The answers of the attitude questions were analysed question by question using Giorgi’s phenomenological method in several different steps [94]. Words or sentences, i.e. significant statements were identified and transformed into meaning units. Meaning units with the same content were categorised into subthemes and the subthemes were subsequently organised into five themes. Both authors participated, first separately, then together, in the analysis and differences in assessments of quotations were discussed until consensus was reached.

Papers II and III
The statistical evaluation was carried out using the SPSS program 11.0. Data were categorical or nominal and we used the chi-square test or Fisher’s exact test to compare differences between groups. Three age-groups were created; 14-19, 20-29 years and 30 years and older. Additional analysis (not published) was done to validate the rating scale in Paper II and to expand the analysis of associations between knowledge, attitudes and use in all groups. P-values are two-sided and considered as statistically significant if <0.05. The analysis of the open-ended questions was based on content analysis procedures [95].

Paper IV
The questionnaire data were presented by descriptive statistics and interview data were analyzed by content analysis. This method can be used to draw valid conclusions about a manifest message in a communication by systematic identification of specified communication characteristics, and answers to structured open-ended questions are suitable for this technique [96]. The analysis began with a verbatim transcription of the audiotaped interviews. Field notes were used to validate the transcription when words or sentences were indistinct. Words and sentences, i.e. recording units that contained information relevant to each interview question, were identified. Preliminary categories were created. The content and the boundaries of each category were discussed and defined. Finally, all recording units with information relevant to the interview questions were referred to mutually exclusive categories.

The truth value of the data analysis was ensured as data were collected and analyzed by the same persons, both nurse/midwives with experience of contraceptive counseling as well as of performing focus group interviews [97]. In order to check the credibility of the categorization of recording units a third assessor (none of the authors) was asked to assign all recording units from one focus group interview to categories. A comparison of the two
categorizations of all recording units was made using the Kappa method [98] showing a Kappa value of 0.95 [99].

Selected verbatim quotes that captured participant sentiments, views and opinions, as well as the inter-active process within the groups, were used to reflect the original material.

Paper V

All data were entered into the SPSS program 11.0. An alpha level of .05 was used to determine significant differences. Since data were ordinal and the distribution skewed, non-parametric statistics (Chi-square, Mann-Whitney U-tests) were performed to examine differences between groups. The respondents were divided into two groups; younger (19-44) and older (45-64). Median (Md) values were calculated for each item and study group. Internal reliability of the Likert scale items was tested using Cronbach’s α calculation [100] indicating satisfactory item-to-scale reliability [91]. The answers of the open-ended question were analyzed with content analysis [101].
Results

The results are presented as summaries of Papers I-V, including some additional results in Papers II and III.

Paper I

Knowledge of ECP
Most participants had heard of ECP and the basic level of awareness was high. Detailed knowledge of how the regimen works and the efficacy of ECP was either lacking or was incomplete. A common misconception in all groups was that ECP causes an abortion. The basic knowledge of ECP among the teenage girls had been achieved through study visits to the youth health clinic in Uppsala. Other common sources of information mentioned were friends and school. The majority knew that ECP hormones are similar to those of oral contraceptives but the efficacy was often overestimated.

Attitudes towards ECP
The analysis resulted in five different themes:
1. Sexual Moral and Responsibility. A wide-spread opinion in all groups was that unprotected intercourse occurs and that it can happen to ‘anyone’. Generally, the girls thought it was good that there was something to take ‘afterwards’. Several participants found it embarrassing to go and tell anyone about a contraceptive failure, or even worse, of no contraception at all. It was considered less embarrassing if you had a boyfriend and more embarrassing if alcohol had been involved. The general view was that ECP is an emergency solution and should be used as little as possible; that you ought to protect yourself but that ECP is a better solution than having an abortion. The risk of ‘overuse’ and that ECP would replace the use of other contraceptives was expressed, but many girls thought that the unpleasant side-effects would prevent ‘overuse’. The
majority believed that the most common need for ECP was condom breakage, but they were not convinced that this always reflected the reality.

2. Health Aspects.
Worries about hormonal effects on your body were expressed and the majority felt that ECP was not good for the body. Risks of sterility were also expressed. Risks of sexually transmitted diseases when having unprotected sex were well known, some girls thought that too much talk of STD risks might have a counteractive effect, that you become ‘immune’ to the subject.

3. Gender Perspectives.
A positive attitude was expressed towards their own sexuality as well as of their own will and desire to decide. However, in all groups, participants agreed that there were risks that men can use ECP to pressure women into unplanned or unprotected sex.

4. Availability.
The majority knew how to obtain ECP, and were positive to use them if needed. Increased availability and making ECP an over-the-counter product was rejected by most of the participants, fearing that it could lead to ‘misuse’ and ‘overuse’ of ECP. Limited opening hours in youth clinics were commented, arguing for some kind of ‘emergency thing’ of weekends. The providers were seen as experienced and competent midwifes or doctors, giving advice and support in delicate situations. The importance of a kind and understanding treatment was emphasized.

5. Information/Knowledge.
Generally, the girls perceived that they had enough knowledge of ECP and details could be obtained if a need arose. A few desired more information about ECP before they were sure they could trust using the method.

Paper II and Paper III
The main characteristics of the participants are shown in Table 2. The mean age of the participants was 27.7 years, ranging from 14 to 46 years. Women who were daily smokers had more previous abortion(s) (p=.016) and a shorter education (p=.000) than the non-smokers. More women in the age-group 20-29 years were daily smokers (48%), than were teenagers (14%) and older women (38%) (p=.005).
Table 2. Demographic characteristics and method of contraception of women seeking induced abortion during the study period

<table>
<thead>
<tr>
<th></th>
<th>N=518</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-19</td>
<td>73</td>
<td>14.1</td>
</tr>
<tr>
<td>20-29</td>
<td>247</td>
<td>47.6</td>
</tr>
<tr>
<td>≥30</td>
<td>198</td>
<td>38.3</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swedish</td>
<td>444</td>
<td>85.7</td>
</tr>
<tr>
<td>Nordic</td>
<td>15</td>
<td>2.9</td>
</tr>
<tr>
<td>Non Nordic</td>
<td>59</td>
<td>11.4</td>
</tr>
<tr>
<td><strong>Education level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehensive school (9 years)</td>
<td>139</td>
<td>27.3</td>
</tr>
<tr>
<td>Upper secondary school (12 years)</td>
<td>274</td>
<td>53.8</td>
</tr>
<tr>
<td>University</td>
<td>90</td>
<td>17.6</td>
</tr>
<tr>
<td><strong>Professional status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>132</td>
<td>25.5</td>
</tr>
<tr>
<td>Employed</td>
<td>257</td>
<td>49.6</td>
</tr>
<tr>
<td>Unemployed</td>
<td>52</td>
<td>10.1</td>
</tr>
<tr>
<td>Other benefit (including housewife, parental leave)</td>
<td>75</td>
<td>14.5</td>
</tr>
<tr>
<td><strong>Children</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>257</td>
<td>49.8</td>
</tr>
<tr>
<td>1-2</td>
<td>183</td>
<td>35.5</td>
</tr>
<tr>
<td>&gt;2</td>
<td>76</td>
<td>14.7</td>
</tr>
<tr>
<td><strong>Steady relationship</strong> (&gt;3 months)</td>
<td>415</td>
<td>81.4</td>
</tr>
<tr>
<td>Daily smoker</td>
<td>223</td>
<td>43.2</td>
</tr>
</tbody>
</table>

The majority of the women found it difficult or very difficult to make a decision with respect to pregnancy termination and almost all of the women (97%) had discussed the abortion decision with someone. Most of them had discussed it with their partner and/or friends. The difficulty of the decision about induced abortion varied by age group. More women aged 20-29 years (53%) rated the abortion decision as very difficult (1-2), than did teenagers and women ≥30 (12% vs 35%, p=.007). The results of women’s estimates, by age, are shown in Figure 3. Estimates of the decision from 1 (very difficult) to 7 (very easy), showed a median value of 2 in age-group 20-29, compared to with 3 in the younger and older age-groups. Of women who had their second abortion, 71% rated the decision as very difficult (1-2) compared with 51% of the women who had their first abortion and 49% of the women with 2 or more abortions (Md=1, p=.332).
How difficult was it for you to decide about abortion?

1=very difficult  4=neither difficult nor easy  7=very easy

Women with children more often estimated the abortion decision as very difficult (42%, \( p=0.003 \)) than women without children (28%) (Figure 4).

![Figure 3. Difficulty relating to the abortion decision by age.](image)

![Figure 4. Difficulty relating to the abortion decision by parity.](image)
The difficulty of the decision was related to the reasons given for the abortion. Women who stated that “I do not want to put children into this world” as one of their main reasons rated the decision more often as very easy (6-7) (64%, p=.001), as did women who simply responded “don’t want children” (62%, p=.000). Women whose partner wanted them to have an abortion more often rated the decision as very difficult (1-2) (93%, p=.002).

No difference in the estimation of the abortion decision was found between women who had used effective contraceptive methods and women who had used no, or a less effective, method, at the time of conception.

The reasons for pregnancy termination were many, and almost three-quarters of the respondents had listed more than one factor. Poor economy was the most common reason, more often cited by women with a shorter education than by women who were more educated (p=.000), and more often by studying and unemployed women than by working women (p=.000). Other important reasons for requesting termination of the pregnancy were bad timing of the pregnancy (too young, too old, want to study/work first) having completed the family, and problems in relation to the partner.

Overall, 36% did not use any form of contraception at the time of conception and among teenagers, the corresponding figure was 49%. All of the other women stated that they had used various contraceptive methods. Women having their first abortion did not differ from women having their second or third abortion with respect to contraceptive risk-taking. Among the first time aborters, 39% reported not using any contraceptive method at the time of conception, compared with 32% among second aborters and 34% among third timers (p=.430). The respondents who had not used any contraception were asked about their main reasons for not having used contraception. The main reasons given were that they did not believe they could become pregnant at that time (34%) or that they took the risk (27%). The majority of the women planned to use effective methods as OCs (50%), IUD: (21%) or condoms (14%), after the abortion.

Knowledge

The existence of ECP was known by 83% of all the women and teenagers were the most knowledgeable (p=.000). More teenagers than women over 20 years knew the time window of the effectiveness of ECP (p=.000). Of all women, 30% believed that ECP was an abortifacient.

Women who had received their main information from a nurse-midwife had better knowledge of effects of mechanism (p=.004) and time limits (p=.005) and they were more often previous users of ECP (55%, p=.000). Previous users more often knew the correct time limit for use (71%) than non-users (29%) (p=.000) and they were more positive to ECP as an OTC-
product (p=.041). More women in the oldest age group said that they would have used ECP if they had had more knowledge about the method (42%, p=.010).

Experience
One out of five, 22% (n=93), had previously used the emergency contraceptive pill. Teenagers were more frequent users than women over the age of twenty, 41% vs. 24%, with 10% among women 30 years or older (p=0.00). More students (45%) than employed (37%) and unemployed (18%) had previously used ECP (p=.000). Within the three age groups, no differences in previous use regarding smoking habits, education, previous abortion(s) and method of contraception were found. Three percent had used ECP to try to prevent the current pregnancy, and of those women, all had had previous experience of ECP.

Attitudes
More women who had used a condom at the time of conception reported that they would have used ECP if they had been more knowledgeable about the method, than women who had used no or another method of contraception (p=.013); and condom users more often reported that they would have used ECP if they had had it at home 43%, compared with 30% who used no method, and 9% of OC users.

In an open-ended question, women motivated why they did not favor ECP as a prescription-free product. The content analysis of the answers resulted in three categories: Risk of misuse or inappropriate use; Ethics/Moral; Concerns regarding side-effects.

In the last question, women were invited to add personal remarks about the abortion care, and 47 women added comments and personal reflections. All answers were categorized into four major categories;
1. Treatment of the provider (n=17)

Don’t forget that the woman is feeling very bad, psychologically. I hope they will be kind.

I feel so embarrassed, the attitude of the receiver is so important.

2. Side-effects or problems with contraceptive methods (n=9)

Oral contraceptives do not always work, nor does ECP.

I have not found any contraceptive method that helps me.
3. Abortion decision (n=6)

This is the most difficult but necessary decision in my life.

The decision about an abortion can only be made by the one who is pregnant.

4. Information (n=9)

Stop telling that condoms are 99.9% safe!

You ought to educate young women that the pregnancy risk is high even during ‘safe periods’.

5. Other (n=6)

The waiting times are too long; you should have an appointment the same day.

If I only had known that I risked pregnancy, then I should have used it (ECP).

Paper IV

Demographics of participants are presented in Table 4. Most participants had received information about ECP from media (n=11) and friends (n=6). Twenty women had used ECP once, three had used ECP twice and two had used ECP three times. The most frequent reported reasons for purchase were condom failure (n=8), missed birth control pill (n=8), unprotected sex (n=6) and two took ECP “just in case”. Eighteen women had not noticed any side-effects of the ECP. The majority (n=18) had discussed the use of ECP with their partner before purchase. Out of the 19 women, 14 intended, if necessary, to use the method again.
Table 3. Demographic characteristics

<table>
<thead>
<tr>
<th></th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>20-25</td>
<td>23</td>
</tr>
<tr>
<td>26-30</td>
<td>1</td>
</tr>
<tr>
<td>&gt;30</td>
<td>3</td>
</tr>
<tr>
<td>Marital statusa</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>12</td>
</tr>
<tr>
<td>Cohabiting</td>
<td>13</td>
</tr>
<tr>
<td>Divorced</td>
<td>1</td>
</tr>
<tr>
<td>Ever pregnanta</td>
<td>3</td>
</tr>
<tr>
<td>Previous abortiona</td>
<td>1</td>
</tr>
<tr>
<td>Habitual contraceptionb</td>
<td></td>
</tr>
<tr>
<td>Oral contraceptive pill</td>
<td>12</td>
</tr>
<tr>
<td>Condom</td>
<td>11</td>
</tr>
<tr>
<td>Both</td>
<td>1</td>
</tr>
</tbody>
</table>

a Data missing for 1 women
b Data missing for 3 women.

Focus group data
The analysis of the focus group data resulted in 8 categories.
1. Knowledge
   A common apprehension was that the ECP should be taken as quickly as possible, although the message of 72 hours for efficacy was known. Some women knew that ECP prevents fertilization while others had an unclear picture about the mechanism of action. In all groups there were discussions about how ECP disrupts the process of fertilization, and a few voiced worries that ECP works like an abortifacient. The effectiveness was overestimated and compared with that of oral contraceptives.

2. Decision-making process
   For most women, the need for ECP had arisen during weekends and the possibility of obtaining it on a Saturday or a Sunday was described as a relief. Some couples went together to the pharmacy, and in some cases, the partner was the one who bought the pills. Those with no stable relationship did not involve the partner in the decision to purchase ECP.

3. Purchase
   Some women described the purchase as a natural thing while others described feelings of embarrassment and shame. The women found ECP expensive, and some were upset about the cost and compared it with the cost of OCs. However, others were happy to pay approximately 10 Euro to prevent an abortion. Pharmacies were judged to be the appropriate place to sell the product, suggestions about selling ECP in drugstores were rejected.

4. Role of the pharmacist
Many women described the pharmacists as very obliging and kind, asking relevant questions and giving advice and information. Others described pharmacists as neutral, not asking anything and not giving any information. Some women had experienced negative attitudes from pharmacists who had been reluctant to deliver ECP emphasizing that ECP must not replace regular contraceptives and can be dangerous when used repeatedly.

5. Information and counseling

All women found the information brochure about ECP satisfactory, providing answers to all questions. Still, many expressed a lack of information on the mechanism of action. Most women emphasized that pharmacists, besides providing basic information on ECP, ought to ask all women if they had any questions about ECP. The majority preferred ECP to be kept behind the counter as that gives the consumers an opportunity to interact with the pharmacist, to be provided with information and advice. The women emphasized the importance of receiving information about the OTC availability from gynecologists and other health care providers, and of health services distributing ECP for free.

6. Benefits of OTC-availability

All women welcomed and appreciated the prescription-free status of ECP. Several aspects of timesaving were mentioned. Feelings of relief, e.g. to be able to take the decision to use ECP without trying to get appointments in fully booked clinics were described. The majority considered that keeping ECP at home “just in case” was too costly.

7. Effects on sexual and contraceptive behavior

Most women did not believe that ECP would affect women’s contraceptive habits, arguing that ECP is an alternative to abortion rather than to contraception, while others felt that ECP easily could replace the use of condoms. Concerns about young girls were expressed, whom they thought were in need of more counseling and support than adult women. Young girls were seen as a vulnerable group for being pressured into unprotected intercourse including risks of contracting STI’s.

8. Side-effects

The majority had not noticed any side effects of ECP, some reported nausea, dizziness, fatigue and heavy bleeding. A few mentioned that it was difficult to know whether these effects had physiological or psychological causes, and some voiced worries of potent hormones and negative long term effects.

Paper V

Characteristics of the participants are presented in Table 5.
Table 4. Background data by study group

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pharmacy staff n=218 (%)</th>
<th>Nurse-midwives n=137 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6 (3)</td>
<td>137 (100)</td>
</tr>
<tr>
<td>Female</td>
<td>211 (97)</td>
<td></td>
</tr>
<tr>
<td><strong>Median age in years</strong></td>
<td>51</td>
<td>49</td>
</tr>
<tr>
<td><strong>Median years of practice</strong></td>
<td>25</td>
<td>19</td>
</tr>
<tr>
<td><strong>Qualifications of pharmacy staff</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmacist</td>
<td>15 (7)</td>
<td></td>
</tr>
<tr>
<td>Prescriptionist</td>
<td>104 (51)</td>
<td></td>
</tr>
<tr>
<td>Pharmacist technician</td>
<td>88 (41)</td>
<td></td>
</tr>
<tr>
<td><strong>Experience of OTC sale of ECP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>3 (1.4)</td>
<td></td>
</tr>
<tr>
<td>Seldom</td>
<td>52 (24)</td>
<td></td>
</tr>
<tr>
<td>Sometimes</td>
<td>111 (51)</td>
<td></td>
</tr>
<tr>
<td>Often</td>
<td>51 (23.5)</td>
<td></td>
</tr>
<tr>
<td><strong>Experience of OTC sale/provision of ECP to men</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>64 (29.5)</td>
<td>105 (79)</td>
</tr>
<tr>
<td>Seldom</td>
<td>98 (45)</td>
<td>28 (21)</td>
</tr>
<tr>
<td>Sometimes</td>
<td>45 (21)</td>
<td></td>
</tr>
<tr>
<td>Often</td>
<td>10 (4.5)</td>
<td></td>
</tr>
<tr>
<td><strong>Median doses of ECP provided/month/clinic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before OTC</td>
<td>3.5 (range 0-75)</td>
<td></td>
</tr>
<tr>
<td>After OTC</td>
<td>1.5 (range 0-60)</td>
<td></td>
</tr>
</tbody>
</table>

aData missing for 1 respondent
bData missing for 11 respondents

The majority of the pharmacy staff, 75%, reported selling ECP over-the-counter often or sometimes. In larger pharmacies, the ‘Norlevo’ product was openly displaced in the area of self-medication, where pharmacy personnel are available to customers (53%), whereas in smaller pharmacies, the product was kept behind the counter (47%).

Counseling

Nurse-midwives reported more often about all aspects of ECP than did pharmacy staff. Information on ECP, always or often, to women coming for contraceptive counseling, was reported by 41% of the nurse-midwives. One-
third of the pharmacy staff reported on referral, always or often, to a nurse-midwife/doctor for follow-up after treatment (38%).

Attitudes
More midwives than pharmacy staff showed favorable attitudes to the majority of statements of the four domains. More than four out of five, in both study groups, were positive to have ECP over-the-counter (availability) and agreed that all women who are sexually active should know about ECP (information). Both groups were negative to the statement that ECP should be sold only together with condoms (availability), and the majority in both groups did not think that ECP makes it more difficult for women to refuse unprotected intercourse (risk behavior). Among pharmacy staff, the older group, aged 45-64, were more positive towards adult women keeping ECP at home than were the younger age group (p=.002). The attitudes to keeping ECP at home, of both study groups, are illustrated in Figure 5.

![Figure 5. Attitudes to having ECP at home, by study group.](image-url)

Collaboration
As many as 70% of pharmacy staff and 68% of nurse-midwives indicated a need for collaboration between pharmacies and clinics, and 24% of pharmacy staff and 33% of the nurse-midwives reported an ongoing contact or collaboration. The final open-ended question invited participants to suggest collaboration improvements between pharmacies and clinics. The
answers given by pharmacy staff (n=117) and nurse-midwives (n=67) resulted in the following key issues.

Suggestions and requests of pharmacy personnel;
- Regular information and meetings/workshops with local clinics about drug therapy, sale statistics, sexual health and habits (n=42)
- Consistency in advice (n=24)
- Information on and referral to local clinics (n=30)
- Teenagers’ use of ECP and need of special counseling (n=21)

Suggestions and requests of nurse-midwives;
- Regular meetings for mutual exchange of experiences and “feedback” (n=24)
- Consistency in advice (n=7)
- Information about available services of local clinics and/or recommendations on follow-up visits and contraceptive counseling (n=36)
Discussion

Reflections on results
In this thesis, the aim was not to include or to test any specific theory of attitudes. However, the three predictors of the TRA theory (i.e. attitudes, social norms and intention of behavior) have been used in interpreting some of the results.

Knowledge of ECP
Our result showing good basic awareness of ECP, but lack of detailed knowledge such as time frames, effectiveness and mechanism of action (I, II, III and IV), is consistent to those of previous studies [12, 19, 21, 58, 87, 101]. Almost every teenager had heard of the ECP method and teenagers were more knowledgeable with respect to ECP than older women. This high awareness has also been noted in other Swedish studies [12, 25] and may be a result of youth health clinics, serving as a source of information, and of debates of ECP in media. The two main information sources of ECP were friends and media, results in accordance with several previous studies [16, 35, 103]. It is problematic that many of the women confused ECP with abortifacients, a finding shown in previous studies and a misconception that seems difficult to change [12, 32]. One explanation may be the fact that ECP is taken after intercourse. This is a misconception that may lead to negative attitudes towards easy access to the method.

Women with previous use of ECP had better knowledge of correct time limits than non-users (III), but we don’t know whether the knowledge was achieved before or in connection with the use of ECP. More women over the age of 30 than younger said that they would have used the method if they had known about ECP, which indicates knowledge as being one predictor of behavior. Positive attitudes to ECP over the counter were more frequent among women who had used the method, which may be interpreted as positive experiences of use of ECP. It might also illustrate that positive attitudes affected behavior.
Abortion-decision and contraceptive habits

In Paper II almost half of the women reported at least one previous legal abortion, a result consistent with previous surveys [19, 22, 58, 65].

Significantly more women with a repeat abortion, 34%, were heavy smokers (≥10 cig/day) compared with 16% among women having their first abortion (p=.019). This suggests that women presenting for reabortion are a high-risk group for additional abortion(s) and also possibly more willing to take risks and thus are a target group for intense information concerning ECP. In a study by Falk et al. [104], women who requested ECP were found to be a risk group for new unintended pregnancies despite planned follow-ups with contraceptive counseling.

The majority of the women found it difficult or very difficult to make a decision concerning abortion. Women with children found it more difficult than did women without children. This finding is in line with Kero et al. in their study of abortion applicants in the north of Sweden [56].

Overall, 36% did not use any form of contraception at the time of conception (Paper II and III), a result consistent with abortion applicants in London, [105] and in New Zealand [65]. We did not find any differences in contraceptive risk-taking between women facing their first abortion compared with having a reabortion, which is in accordance with some comparative studies of first and reaborters [64, 67, 106, 107], but in contrast to a study by Garg and co-authors [108] where the reported use of contraception was significantly higher in women undergoing repeat abortion(s).

The women in our study were highly motivated to use the more effective contraceptive methods after the abortion, and so were women in a study of Garg et al. [108], suggesting that an induced abortion can be an event with a major influence on contraceptive practice. However, in a review on counseling in clinical settings to prevent unintended pregnancies in the United States [109], it was concluded that there is no literature available there that can provide reliable guidance as to the kind of counseling that reduces rates of unintended (unwanted, mistimed, etc.) pregnancies. Osler et al. [107] concluded that most women using efficient methods consistently after a first abortion are unlikely to appear in repeat abortion.

To be more actively involved with women at the time of the first abortion, inclusion of a routine visit to a social worker as well as individual contraceptive guidance and follow-up may help women to avoid a second abortion. Ideally, including the male partner in this procedure is to highlight
and emphasize the view of dual responsibility in preventing unwanted pregnancies.

In Paper III, women who did not use any contraceptive method at the time of conception (n=185) were at the highest risk of pregnancy. In this subgroup, 51% said that they would have used ECP if they had had pills at home and 28% said they would have used it if they had had more knowledge about ECP. However, in this group, 63 women said that the reason for not using contraception was not being aware of the pregnancy risk. This lack of awareness was similarly noted by Sørensen as a limiting factor for ECP use [18]. Of women who had used condom, 43% said that they would have used ECP if they had known about it. Women using barrier methods or no method are thus target groups for increased information about the back-up option of ECP in case of contraceptive failure.

**Attitudes to ECP**

The overall attitudes to ECP were generally positive and the participating women were prepared to use the method if necessary. Yet, the teenage girls in Paper I saw the use of ECP as a 'last resort' that must not replace the use of contraceptives, but it was still perceived as a better alternative than abortion. The positive attitudes to and intentions of behavior are two important possible predictors of future use of ECP according to the theory of reasoned action (TRA). The possibility of buying ECP ‘over the counter’ was rejected by the young teenage girls arguing that it would lead to ‘overuse’ and less use of contraceptives and that you need counseling in connection with ECP use. Similarly, the women who did not favor prescription-free ECP in Papers II and III thought that this would result in misuse or inappropriate use, and concerns about young girls being vulnerable in this respect was further expressed by the participants in Paper IV.

Students in a focus group study from Princeton voiced the same concerns of ‘overuse’ but attitudes to increased availability were age-related, older students being more positive to increased access to ECP [14]. Negative attitudes towards ECP OTC, among teenagers, and fear of negative consequences on safe sex practices may not only reflect social norms of planned sexual behavior, but also a genuine desire and need of support and counseling from health care providers, i.e. the sharing of responsibility with a professional. This suggests that most young girls will continue to use the option of obtaining free ECPs from youth health clinics instead of buying them without prescription in the pharmacy.
Users and non-users of ECP

The most commonly reported reason for use of ECP is condom failure [24, 28, 31, 34, 35, 104], indicating both positive attitudes towards condom use, inconsistent use or possibly non-use of condoms. In a study of 360 females, using condoms as their primary method of contraception, it was found that the quality of condom use was poor, and that more effective use was reported by women who had not had an induced abortion, had more knowledge about birth control in general, had received a nursing intervention, and had more communication with their partner [110].

The women in Paper IV discussed different reasons for need of ECP, risks of STI and that ‘any’ woman can be in need of ECP. The ‘profile’ of users and non-users of ECP has been explored in several studies [18, 24, 31, 111]. Taken together, the average user of ECP has been described to be a young woman around 20 years, single, nullipara, studying, or with a higher education, having a previous history of STI, and being a smoker. In our results (III, IV), ECP users were more often teenagers or students and reported use of some contraceptive method, indicating more similarities than differences between users and non-users.

In a recently published interview study [112] of young women in England (aged 16-25, n=30), factors influencing the non-use of ECP after problems with contraception were explored. The women were recruited from socially deprived inner city areas where the use of ECP provided by pharmacies had been low. Many women reported a low sense of vulnerability to pregnancy and assessed the risk of pregnancy as small when they didn’t use contraception or had a failure. Several women reported a sense of personal invulnerability – pregnancy happened to other people and not to them. These women didn’t use ECP, while women who described a strong concern of avoiding pregnancy used contraception, and if needed, ECP. Teenagers from the most deprived areas often linked ECP to undesirable behavior – a sense of shame and guilt together with a strong concern about the way people in their surroundings thought about their sexual behavior.

Additional reported barriers for use of ECP were limited knowledge, side-effects and service barriers. Consultations that focused on the risks that had been taken deterred women from reattending for ECP. The fear associated with a possible pregnancy and the overwhelming shame and anxiety indicate that these women have very low personal resources in coping with and responding to the risk after unprotected intercourse. In our findings, abortion applicants (II) also reported that assessed low risk of pregnancy was a reason for non-use of contraception and in reasons given for abortion a small number of the women also expressed feelings of shame and guilt and that they blamed themselves, indicating negative self evaluation. Similarities in the way women reported service barriers are also found in our studies,
showing the vulnerability in such delicate situations, and that women already are well aware of a non-desirable behavior.

ECP and risk behavior

In our studies, there are few indications that women are changing their contraceptive behaviors because of wider availability of ECP. Rather, women behave responsibly in relation to their use of contraception. In an American study of women aged 18 or older, 70% were using a method of contraception before taking ECP (condoms 73%) and 69% of the women agreed that ECP should be given to women for future use in case of unprotected intercourse [34] and almost all women said they would only use ECP again in an emergency. Glasier has shown that women did not “overuse” ECP when they had pills available at home [113]. In San Francisco [114], women who had received advance provision and education on ECP reported increased use and more often use of barrier methods at follow-up than women who had only received education. Results showing riskier behavior have been reported in a number of British surveys of women (14-37 years of age) applying for ECP [27, 28, 31, 115, 116]. Increased risk of abortion, frequent repeat use of ECP, a high incidence of sexual risk taking and need of ECP following alcohol consumption, along with an association with smoking, were demonstrated.

Many studies in qualitative research have focused on risk and safety in sexual behavior of young women. In a review of young people’s heterosexual encounters [81], six issues were highlighted: (1) difficulties in talking about sex; (2) the gender-role expectations of an encounter; (3) the primary function of condoms as contraceptives; (4) problems in buying, carrying and using condoms; (5) how the stage of a particular relationship affects behavior, and (6) gendered power relations. The communication was found to be non-verbal and coded which can be one explanation of sex “just happening” and that contraception is often only discussed after the first intercourse. It was found that the primary purpose for using condoms was to prevent conception rather than contra-infection.

For a woman to carry condoms outside a steady relationship may give an impression that she is both pre-meditating and self-initiating a sexual encounter, either of which may label her as ‘a slag’. If a sexual relationship was perceived as long-term women were likely to switch to the pill, symbolizing serious commitment. Women’s choices may thus be constrained by their power relations with men and the privileging of men’s sexual gratification [81]. There are no obvious reasons for assuming that these findings of sexual relationships would differ among Swedish young women.
Bajos [79] examined risk-related sexual behavior from a relational-based approach. She reported that people who met a partner through someone they knew used condoms significantly less often than people who met a partner in school (or university) or in an anonymous place. This finding indicated that the same people behave differently in different contexts (if individuals recruit their partners in different environments) and that the circumstances have an impact on behavior. In addition, the analysis showed that sexual and preventive behavior of both men and women appear to be linked to the women’s status in society.

In research where variables from theories of TRA and TPB were used, the attitudes of young heterosexuals toward condoms were found to be predictive of their intentions to use them [117], and in a test of a safer sex model using variables from TRA, behavioral intentions were the strongest predictors of safer sex behavior [118]. In our results, the behavioral intentions found were; intentions of abortion applicants to use effective methods after the abortion; abortion applicants reporting intended use of ECP had they had more knowledge or had they had ECP at home (Paper III); the teenager’s and adult women’s intention to use or to reuse ECP if necessary (Papers I and IV), and finally, we suggest that the provider’s overall positive attitudes towards ECP use (Paper V) may influence women’s intentions of behavior.

The results of attitudes in Paper V reflected ambivalence to ECP as contributing to increased risks of sexual behavior. Many of the participants are surely knowledgeable and concerned about the rates of both abortion and STIs that have continued to rise since the late 1990s. In Sweden, the incidence of genital chlamydial infections has increased by 60% from 1998 to 2001 and the highest incidence is found among 20-year-old women (2 800/100 000) and 22-year-old men (1 800/100 000). During the first six months of 2002, 11 628 cases were reported, an increase of 10.8% from the same period in 2001. The abortion rate among teenage girls increased by approximately 50% from 1995 (17/1000) to 2002 (25/1000) [119]. A total of 6 503 induced abortions were performed among teenage girls in 2002. A further indication of changes in contraceptive behavior is the reported decrease in sales of condoms, from 25 millions in 1987 to 17 millions in 1998 (including condoms to youth health clinics) [120]. These are some of the facts indicating less safe contraceptive behavior. Other possible contributing factors may be economic stagnation during the 1990s with increased social and ethnic segregation, the increase in the use of drugs, fewer resources for sex education in schools, and increasing cases of reported sexual exploitation. In addition, the impact of media, focusing on sexuality with sex being placed in the center of a healthy life style, has to be taken into account in discussions of risky behavior.
Contraception and dual responsibilities

In order to make contraception a responsibility of both genders the male partner needs to be more visible and involved in sexual health issues. Very few studies have focused on young men and ECP. A Swedish study of attitudes showed that teenage boys were more positive to ECP than the girls [12] and in another survey [25] of 17-year old teenagers the use of ECP was reported by 28% of the boys (reporting the experiences of their girl-friends). Studies addressing teenage and adult males’ involvement in abortion indicate that there is a need for support for young men in the process of decision-making on abortion [121-124].

In Paper IV, women who had an on-going relationship considered it natural to involve their partner in the process of the decision to use and purchase ECP. Young men are a target group for information on what to do in case of a condom failure and thereby also for information on ECP as a prescription-free product. Findings from focus group discussions with university students in Princeton [20], showed that favorable attitudes towards easy access to ECP, among male students, were age-related. Male graduates were more supportive of expanded access to ECPs than were male undergraduates. However, they expressed concerns that men might use the availability of ECPs to pressure women into unplanned or unprotected intercourse. The same risk was discussed by the women in Papers I and IV, arguing that younger girls are more vulnerable than mature women in this respect. The special needs of younger girls were also highlighted in numerous comments from pharmacy personnel in Paper V.

The role of pharmacy personnel

In Paper V both pharmacy personnel and nurse-midwives were in favor of having ECP available without prescription, a finding in line with results of Sherman [37] and Hariparsard [38]. In our Paper V, it was encouraging to find positive attitudes of pharmacy personnel that sexually active women should be aware of ECP and that routine information about ECP be included in contraceptive counseling, since personal attitudes always will be reflected in a person’s behavior and body language. In contrast to our results, findings of the interview study of Barrett and Harper [40] were mainly negative. The attitudes contained moral values and the view of irresponsible female behavior. GPs expressed hesitancy about pharmacists dispensing ECP and felt that they should be trained to look for the contra-indications associated with ECP (the study was made before the progestogen-only pill was introduced). GPs expressed concern over the loss of contact and the opportunity to discuss future contraception. Pharmacists feared a heavy demand for ECP if it was deregulated and were concerned about the
questions they had to pose. In our results, oral information were found to be insufficient by more than half of the pharmacy staff. It is possible that their own negative attitudes and subjective norms towards use of ECP may contribute to this, in accordance with the findings of Mason [73]. Another possible reason is that the pharmacy setting is not well suited for private sexual counseling.

The possibility to buy ECP without prescription may empower consumers who want to take a more active role in their own health care. Perceived consumer benefits of OTC-availability were shown in Paper IV, where women who had bought ECP without prescription in a pharmacy, declared that they were happy not to involve any clinicians, and to buy ECP when they needed them. Satisfaction with the possibility for direct provision of ECP in pharmacies among both adult women and adolescents was also found in another two surveys [36, 125]. Furthermore, self-medication has the potential of lowering contraceptive counseling visits and to significantly reduce health care costs by avoiding abortions.

Voluntary comments by pharmacy personnel about teenagers’ need of support and advice, and the risk of ECP replacing regular contraception, further emphasize the importance of developing functioning links with youth clinics.

The role of nurse-midwives

In the work of primary prevention, the nurse-midwife can play an active part in collaboration with the schools and to participate in the education of sexuality and interpersonal relationships and to gain awareness of the contexts and processes that shape sexual behavior today. In initiating contacts and by gaining confidence among young people, before the need of services, the nurse-midwife has a key-role in this process.

Decision-making about sexuality involves cultural and sex role norms that may inhibit women from exercising freedom of choice. The self-esteem of women should be a concern of all health care professionals working in the area of sexual health. Women, and particularly young women, need to be empowered to make choices and decisions about their sexual relationships. In sex education and counseling, it seems important to focus on sexual norms of preventive behavior as a relational process rather than an individual act.

Young women need to be encouraged to be actively participating and thereby sharing the responsibility of the care, and their views about their experiences of care should be an integral part of clinical audit. Non-compliance has been stressed as one of the problems related to contraception and greater attention has to be taken to the lifestyles and awareness of factors
of non-compliance other than forgetfulness. The necessity of active listening to create an encounter of confidence and mutual respect requires extra time and effort. However, since the role of the care provider was emphasised by the women in our studies, extra time may be justified by greater knowledge, improved compliance and possibly, lower pregnancy rates. To focus on health care rather than moral issues to encourage responsible behaviour and improve health outcomes seems to be an important approach.

Since lack of knowledge of the fertile window and pregnancy risks were found to be factors for not using contraception, including ECP, among the women seeking abortion, the provision of factual, balanced and realistic information need to be included in routine counselling. Moreover, if considering exposure to unintended pregnancies as a health risk, a logical step is to promote ECP for sexually active women to keep in the medicine cabinet, just like aspirins and plasters.

Discussion of Method

Internal validity refers to the degree to which results reflect reality rather than being an effect of uncontrolled, extraneous factors, while external validity refers to the degree to which the results of a study can be generalized to settings or samples other than the ones studied [90].

Selection biases can be a threat both to internal and external validity. In Papers I and IV, the girls and women were self-selected to participate in focus group interviews, which put limits to the internal validity. Girls and women from other groups or settings may differ from ours. The socially desirable bias cannot be ruled out in any of the studies; individual participants may have felt a pressure to give socially desirable responses or wanted to stand out in a favorable light.

The high response and completion rates in Papers II, III and V give credit to external validity. In Papers II and III it demonstrates that women requesting an early termination of pregnancy are willing to provide information by completing anonymous questionnaires. A fear that women in this vulnerable situation would be adversely affected by intimate questions on contraceptive habits and contraceptive failures was not confirmed. Several women also volunteered additional comments as to how they experienced requesting an induced abortion. In addition, our findings are consistent with other studies, suggesting that many women give a reliable response [54, 55, 60]. The sample size was relatively large and represents 20% of the total number of the women requesting abortion during a period of one year at the participating hospitals. The study included women from both
urban and semi-rural areas. Therefore, it seems reasonable to generalise the results to at least medium-sized towns in Sweden.

The results of the focus groups in Paper I were not intended to be generalized to the whole generation of 16-17 year old girls but rather to provide an in-depth understanding of the opinions and attitudes of teenage girls to ECP and OTC. It is, however, reasonable to believe that other individuals of similar social and cultural environments have similar perceptions and experiences. Accordingly, we believe that the results are transferable to similar settings and samples. In addition, our data are in line with results of previous comparable studies [12, 13, 17, 24, 103], which gives further credibility to the results.

In Paper V, the high response rate of pharmacy staff, 92%, can partly be explained by thorough preparatory work and approval of the study at all levels in the pharmacy organization. The most probable reasons why 16% of nurse-midwives did not respond were heavy workload and time constraints, which were commonly mentioned when the clinics were contacted. However, it cannot be ruled out that other, unknown, factors influence practices and attitudes in other regions of Sweden. Preparatory differences in information and education of staff, the degree of active participation of staff in preparation of guidelines and routines, and how well the prescription-free status of ECP was supported, are factors that may possibly affect practices and attitudes.

An obvious threat to validity is the use of non-standardized instruments. The questionnaires (Papers II, III and V) were study-specific and not previously validated, although most of the questions and items were based on earlier studies and related to the results of the qualitative studies (I and IV). The questionnaires were all pilot tested. The rating scale from 1 to 7 (Paper III) for estimating the abortion decision had three verbally labeled alternatives (1=very difficult, 4=neither difficult nor easy, 7=very easy). The responses were unequally distributed with an augmentation in the middle response alternative (4). There can be at least two explanations of this. Firstly, verbally labeled alternatives have been found to be preferred to numbers, and secondly, being uncertain may result in a middle alternative.

The Likert scale in Paper V was developed for this specific time period, covering issues of current interest. Cronbach’s alpha values of the four subscales (0.71-0.83) indicated reasonable item-to-scale reliability [91]. The choice of the number of steps on a scale is dependent on the number of levels the participants are able to discriminate. Several studies have shown that the reliability drops as fewer categories are used. However, the upper limit of the number of categories that can be discriminated are found to be around seven, and the literature suggests five to seven categories [98]. With more response alternatives, “floor and roof” effects can be avoided. In inter-
scale comparisons, discrete scales with verbally labeled response alternatives have shown the highest stability [126]. Since our sample was assumed to have good knowledge of the topic and stable attitudes, we chose a scale with six alternatives and thus forced respondents to take a standpoint. All response alternatives were well utilized but the two groups used the scale differently. Pharmacy personnel more often chose alternatives in the middle, whereas nurse-midwives more often chose the endpoints, possibly indicating different views and approaches to the current issue, or showing differences between the two professional profiles.

Comparisons between questionnaires and interviews for data collection of sexual behavior, as well as between responders and non-responders, were made by James et al., [127]. Good levels of agreement were found between the two methods (some sexual behaviors were more frequently reported in the interviews), and no differences were found between responders and non-responders to either method.

Method of analysis
At the time of the first study, one of the most common and recommended methods of analyzing focus group interviews according to the literature, was the phenomenological approach [128]. The methodological appropriateness of focus groups and phenomenology has more recently been criticized. In focus groups we explore collective views and perceptions and pose open-ended questions which include processes of interaction. The method of phenomenology refers to the totality of the lived experience of a single person and the question is broad and general [129]. However, the five-stage process of systematizing data analysis according to Giorgi is very similar to other qualitative methods of analysis [128]. Specific guidance of interaction analysis applying a scheme to maintain a sense of the whole group within the analysis was made by Stevens [130]. Thematic analysis comparing discussion of similar themes and examining how these are related to the variation between individuals and between groups has been described by Kitzinger and Barbour [131]. Many different methods of how to analyze focus groups illustrate that there is currently no absolute analytic method of choice.

Since the analysis in Papers II, III and V included multiple comparisons, use of the ‘Bonferroni-Holm sequentially rejective test’ to avoid the risk of a type I error to the significance level of .05, was discussed. However, our results are consistent and in accordance with findings of other studies. All p-values are shown and can be evaluated by the reader. In Paper V, although our objective originally was to compare individuals, cluster sampling was also considered to compare different pharmacies and clinics. Due to
confidentiality and that total anonymity was assured, we compared the three
different regions only, and we found no differences between regions. In
Paper IV qualitative content analysis was chosen for the analytic process,
which is based on the systematic description of the manifest content of
communication. It was qualitative in the sense that data were narrative and
qualitative and not numeric.

To conclude, the findings suggest that ECP is still underused and that
further factual information is needed for ECP to become a known, accepted
and integrated back-up method to the existing family planning repertoire.
The overall attitudes of pharmacy personnel and nurse-midwives towards
easily accessible ECP are positive. The results demonstrated a need for
collaboration between pharmacies and local family planning clinics. The
importance of non-judgmental and women-friendly attitudes of providers, in
counseling and communicating of sexual issues was strongly emphasized by
the women in our studies.

Future research

Longitudinal studies are needed for assessing the long-term outcomes of
ECP use. Theoretical framework based on constructs from TRA and the
TPB, together with selected psychosocial, behavioral and demographic
variables, can be of interest in future research on intention-behavior
consistency of safe sexual and contraceptive behavior. Qualitative studies
have to be added to better address relationship issues dealing with safer
sexual contraceptive behaviour among young people.
Conclusions

The results clearly show that the majority of the women found it difficult to decide on abortion.

The majority of the abortion applicants were highly motivated to use effective contraceptive methods in the future, suggesting that qualitative abortion care is of major concern to avoid repeat abortion.

Younger women had better knowledge, more positive attitudes and had used ECP more frequently than older women.

Both teenagers and women over 20 years confused ECP with abortifacients; a misconception that can lead to negative attitudes towards the use of ECP. Therefore, it is important to inform about the mechanism of action of ECP in routine contraceptive counseling.

The majority of women were positive to the use of ECP when needed, but moral concerns about risk of misuse were expressed.

No severe side-effects of ECP were reported.

The women emphasized the importance of kind non-judgmental treatment by providers.

The women with experience of purchasing ECP without prescription found the OTC-availability a convenient and safe way of obtaining ECP.

Predominant favorable attitudes towards ECP and the OTC-availability were shown among both pharmacy staff and nurse-midwives.

The findings suggest that educational efforts of pharmacy staff concerning ECP and collaboration between pharmacies and local family planning clinics are needed.
Longitudinal studies are needed to assess long-term effects of the use of ECP.
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