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Use of and attitudes towards emergency contraception: A survey of women in five European countries

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ABSTRACT

Objective To identify knowledge of and attitudes towards emergency contraception (EC) in women from five European countries.

Methods In an internet-based survey, sexually active women aged 16 to 46 years from France, Germany, Italy, Spain, and the UK were asked about their use of and opinions on EC.

Results Overall, 7170 women completed the survey. Thirty percent reported having had unprotected sexual intercourse during the previous 12 months (population at risk). Twenty-four percent of the population at-risk reported using EC. The most common reasons given for not using EC were: not perceiving themselves to be at risk of pregnancy; and not thinking about EC as an option. A third of respondents indicated they did not know how EC works, with several misconceptions about EC noted e.g., leading to infertility, similar to abortion. Seventy-nine percent of women agreed that EC is a responsible choice to prevent unwanted pregnancy, but nearly a third of women who used EC felt uncomfortable or judged when obtaining it.

Conclusions EC is underutilised by three-quarters of the women surveyed. Women do not recognise they may be at risk of pregnancy when contraception fails. There are still several misbeliefs about EC indicating a need for better education of the public.

KEYWORDS Contraception behaviour, Emergency contraception, Attitudes, Survey, Unprotected intercourse

INTRODUCTION

Oral contraceptives and condoms are the two most commonly used contraceptive methods in Western Europe, although use varies by country[1]. The reliability of these methods is user-dependent and plagued by high rates of misuse (e.g., missed pills, condom failure). It is estimated that approximately 18% of couples using the male condom and 9% of women taking the pill

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would become pregnant in a year of typical contraceptive use[2], illustrating the consequences of user error, method failure, and inconsistent adherence associated with these methods. Copper intrauterine devices (IUDs) and subcutaneous implants, which do not rely on correct and consistent use, have high efficacy rates.

When regular contraception fails, women can turn to postcoital or emergency contraception (EC). Current options include oral levonorgestrel (1.5 mg) or ulipristal acetate (30 mg), and the fitting of a copper IUD[3]. Although levonorgestrel-only EC has been available in Western Europe for over ten years[4], the rate of unintended pregnancy is still high. To illustrate this, it is estimated that in 2008 around 30% of all pregnancies in Europe ended in induced abortion[5]. This suggests that EC is underutilised as a rescue method. Reported rates of EC use vary and include 7% among women aged 16 to 49 years in the UK (women who had taken EC at least once during the past year [2008/2009])[6], 4% among women aged 14 to 50 years in Spain (women who had taken EC during the past year [2010/2011])[7], and 16% among young women (average age 19.5 years) in southern Italy (women who had ever taken EC)[8].

In this survey, we explored the occurrence of unprotected sexual intercourse (UPSI) in fertile, sexually active women from five European Union countries (France, Germany, Italy, Spain, and the UK), pregnancy-risk knowledge of these women, their use of EC, and their attitudes towards EC (potential moral barriers and cultural differences).

METHODS

This online survey was conducted by BVA Healthcare (Paris, France). BVA Healthcare maintains a validated worldwide panel comprising over four million participants of all ages[9,10]. Each participant has a unique global identification number associated with a member account to exclude duplicate responses. For the current survey, a representative sample of women was selected based on social class, revenue, number of children, and education level. Figure 1 describes the selection of participants. The target population was defined as women aged 16–45 years who had had intercourse in the previous 12 months. The at-risk population was defined as women who had at least one UPSI episode in the previous 12 months.

The survey was conducted between March and October 2012 in France, Germany, Italy, Spain, and the UK. It was a quantitative market research survey; as such it did not require ethics committee approval but was carried out in accordance with the usual ethics principles for this type of research. Participation was voluntary and fully anonymous, and members of the panel gave their permission to use their anonymised personal data for research purposes.

The survey included questions about occurrence of UPSI (target population), about estimation of risk of pregnancy (at-risk population), and about knowledge of and attitudes towards EC (at-risk population). Questions about timing of EC use were asked of those who had obtained oral EC during the past 12 months;

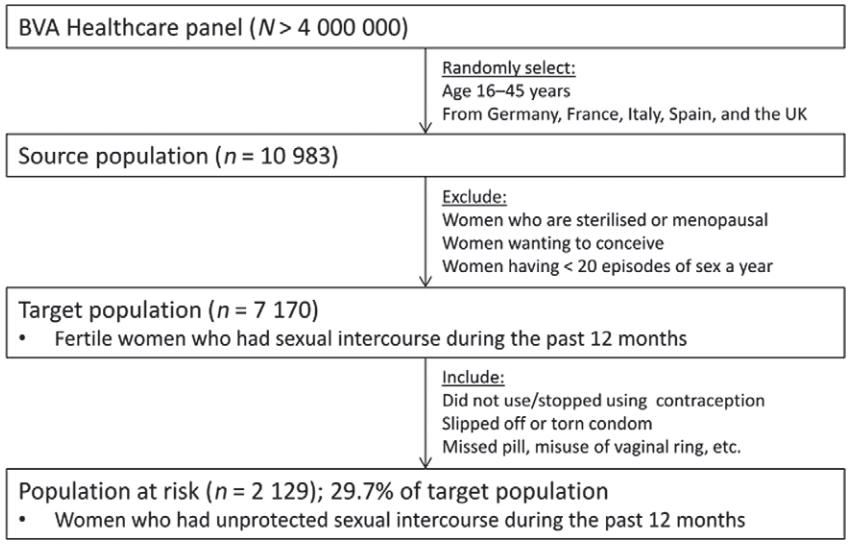

Figure 1 Selection of target population and at-risk population.

those who had an UPSI but did not obtain EC were asked why they did not use this option. In most questions, the term EC included oral EC and IUDs. In those questions that only targeted oral EC, EC was indicated as 'the morning-after pill'.

Women were asked whether they agreed with various statements using five possible answers: strongly agree; agree; not agree; not agree at all; and don't know. To characterise the risk of becoming pregnant in various situations the possible answers included: very likely; likely; low; negligible; or don't know.

RESULTS

Target population and EC use

The survey involved 7170 fertile women aged 16 to 45 years who stated that they had engaged in sexual intercourse during the previous 12 months (target population). Just under 23% (1618/7170) of this target population were aged 16 to 24 years (see Table 1 for distribution per country). Overall 40% of women took a contraceptive pill and 22% used a condom (male or female); 16% did not use any form of contraception.

Thirty percent (2129/7170) of women in the target population indicated they had at least one episode of UPSI in the previous 12 months (at-risk population; Table 1) with this being more commonly reported by younger women (33% of those aged 16 to 24 years compared with 20% of those aged 25 to 45 years; Table 1). Overall, 36% of the at-risk population indicated that contraceptive failure or misuse accounted for UPSI (range, 22 to 50%; Table 1), with not using contraception for various reasons (e.g., irregular intercourse, temporary cessation of contraception) explaining the remainder.

Only 24% (508/2129) of the at-risk population reported using EC (Table 2). EC use was more frequent in younger women after UPSI (37% versus 28%; Table 2). Income and education distribution indicated that there were no differences between women who used EC and those who did not (data not shown). Eighty-eight percent of women who used EC did so within 24 hours of UPSI (Table 2); most of the remainder did so within 48 hours of UPSI. Women taking EC commonly cited condom failure (45%) or forgetting regular (oral) contraception (28%) as their reasons for seeking help (Table 2).

Knowledge and perception of EC

Table 3 shows knowledge about EC in women from the target population. A third agreed that 'I don't really know how EC works' and 31% agreed that 'EC has an abortive effect or is like an abortion'. Ten percent of women thought EC could result in infertility with 46% of women not knowing if this was correct.

More than half of respondents (53%) agreed that 'EC is very effective, but it may not work'. Overall, 42% of the target population thought that EC is 100% effective if taken the next day, whilst 56% thought that EC is less effective after 24 hours.

Table 1 Reported occurrence of and reasons for unprotected sexual intercourse (UPSI).

	France	*Germany*	*Italy*	*Spain*	*UK*	*Total*
Target population	2415	1114	1234	1282	1125	7170
Age 16–24 years	26%	23%	20%	20%	21%	23%
	624/2415	258/1114	242/1234	261/1282	233/1125	1618/7170
Age 25–45 years	74%	77%	80%	80%	79%	77%
	1791/2415	856/1114	992/1234	1021/1282	892/1125	5552/7170
Proportion of women with at least one UPSI	31%	23%	28%	34%	29%	30%
episode in the past 12 months	760/2415	256/1114	347/1234	436/1282	330/1125	2129/7170
In population aged 16–24 years	46%	33%	32%	39%	41%	33%
	287/624	85/258	77/242	102/261	96/233	534/1618
In population aged 24–45 years	26%	20%	27%	33%	26%	20%
	466/1791	171/856	268/992	337/1021	232/892	1110/5552
Reasons for UPSI						
Failure or incorrect use of contraception	50%	33%	22%	25%	34%	36%
	380/760	84/256	76/347	109/436	112/330	761/2129

Table 2 Reported occurrence of and reasons for emergency contraception (EC) use.

	France	*Germany*	*Italy*	*Spain*	*UK*	*Total*
EC use in at-risk population	20%	27%	20%	26%	33%	24%
	150/760	68/256	70/347	112/436	108/330	508/2129
Age 16–24 years	25%	31%	26%	37%	40%	37%
	72/287	26/85	20/77	38/102	38/96	195/534
Age 24–45 years	17%	25%	19%	22%	30%	28%
	78/466	42/171	50/268	74/337	70/232	314/1110
Mean age of EC users, years	26.8	28.3	29.3	28.6	29.2	28.0
EC taken within 24 hours of UPSI	88%	83%	86%	92%	87%	88%
	132/150	56/68	60/70	103/112	94/108	445/508
Reasons for EC use						
Condom failure	41%	39%	41%	63%	40%	45%
	62/150	27/68	29/70	71/112	42/108	231/508
Forgot (oral) contraceptive	43%	34%	22%	8%	26%	28%
	65/150	23/68	15/70	9/112	28/108	140/508

UPSI, unprotected sexual intercourse.

Women at-risk who did not use EC ($n = 1621$) were asked to select the reason(s) for their decision from a list of options (Table 4). The most common responses for not using EC were that these women did not think they were at risk of pregnancy and that they did not think about it. Other responses related to lack of knowledge or misconceptions about EC (e.g., 'I thought it was like an abortion', 'I thought this could make me sterile'), or not knowing where to obtain EC.

Perception of pregnancy risk

Women in the at-risk population were asked when they were most likely to become pregnant (Table 5). The majority (78%) considered it likely or very likely that they can get pregnant when they have sex mid-cycle (days 12−16). Forty-two percent of women at-risk considered the risk of pregnancy negligible or low during the first week or last week of their menstrual cycle.

Over half (59%) of women in the at-risk population considered the risk of pregnancy likely if a pill (oral contraceptive) was missed for 24 hours and they had intercourse within 24 hours of forgetting the pill (Table 6). The majority of women thought the risk of pregnancy was (very) low if they had coitus in the week before forgetting the pill for 24 hours or if they forgot the pill within the previous 12 hours and then had sex.

Table 3 Knowledge of emergency contraception (EC) in the target population. Percentages 'Agree' and 'Strongly agree' are shown; for the question whether EC could lead to infertility, also the percentage 'I don't know' is mentioned.

	'Agree' and 'Strongly agree'					
	France n = 2415	*Germany n = 1114*	*Italy n = 1234*	*Spain n = 1282*	*UK n = 1125*	*Total N = 7170*
I don't really know how EC works	31%	43%	34%	24%	35%	33%
EC has an abortive effect or is like an abortion	26%	34%	45%	29%	24%	31%
EC could lead to infertility	7%	8%	15%	15%	10%	10%
'I don't know'	39%	59%	47%	45%	48%	46%
EC is very effective, but it may not work	54%	37%	49%	42%	65%	53%
EC is 100% effective if taken the next day	43%	37%	49%	42%	35%	42%
EC is less effective after 24 hours	60%	28%	53%	62%	70%	56%

Table 4 Reported reasons for not using emergency contraception (EC) after unprotected sexual intercourse (UPSI).

	France n = 610	*Germany n = 188*	*Italy n = 277*	*Spain n = 324*	*UK n = 222*	*Total N = 1621*
I didn't think that I was at risk of pregnancy	51%	40%	43%	44%	43%	46%
I didn't think about it	18%	24%	15%	19%	24%	19%
I realised after one or two days that I took a risk and I thought that it would not work anymore	8%	10%	8%	5%	7%	8%
Acceptance of pregnancy	8%	12%	5%	6%	12%	8%
I was embarrassed to ask for it	7%	5%	4%	2%	11%	6%
I thought it was like an abortion	1%	4%	19%	3%	7%	6%
I thought I would need a prescription	5%	7%	8%	4%	5%	6%
I thought it was dangerous	2%	3%	6%	3%	3%	4%
It's too expensive	4%	7%	2%	4%	5%	4%
I didn't not know where to get it	2%	5%	7%	3%	6%	4%
I did not know how long after unprotected sex it would work	3%	6%	5%	2%	3%	3%
I had never heard of emergency contraceptive methods	2%	5%	2%	3%	2%	3%
There was no pharmacy open	2%	3%	4%	2%	3%	3%
I did not know where to get a prescription in the weekend	0%	6%	5%	4%	3%	3%
I thought this could make me sterile	1%	1%	2%	1%	2%	1%

Half of the women considered the risk of pregnancy as low or negligible if their partner withdrew before ejaculating (Table 7). Most women considered the risk of pregnancy after a torn condom or slipped condom (very) likely (87% and 61%, respectively; Table 7).

Attitudes toward EC in the target population

The majority of women agreed that EC is a responsible choice to prevent an unwanted pregnancy. In apparent contrast, approximately half of the women surveyed agreed that using oral EC is 'a demonstration that you have been irresponsible with your contraception' (Table 8).

Women in the target population of all five countries agreed that EC should not be a taboo subject or that they should feel guilty about using it, but about a quarter agreed that taking 'the morning-after pill' is 'embarrassing and shameful' (Table 8). Of women who did not take EC after UPSI, 6% indicated this was because they felt embarrassed to ask for it (Table 4). Additionally, nearly a third (31%) of those who used EC reported feeling uncomfortable, stigmatised, lectured, or judged by the prescribing healthcare professional. The main information given by a healthcare professional when providing EC was on how to take the medication. Over 80% of women indicated there should be more information available on EC; most

Table 5 Perception of pregnancy risk after unprotected sexual intercourse (UPSI) throughout the menstrual cycle in the at-risk population.

	France n = 760	*Germany n = 256*	*Italy n = 347*	*Spain n = 436*	*UK n = 330*	*Total N = 2129*
	Risk is likely or very likely					
Mid-cycle	78%	71%	81%	79%	82%	78%
	Risk is low or negligible					
The first week of my cycle	39%	45%	51%	44%	32%	42%
The last week of my cycle	42%	48%	48%	39%	35%	42%

Table 6 Perception of pregnancy risk in the at-risk population with regard to missed oral contraception.

	France n = 760	*Germany n = 256*	*Italy n = 347*	*Spain n = 436*	*UK n = 330*	*Total N = 2129*
			Risk is likely or very likely			
'I missed a pill…'						
for 24 hours and had UPSI within 24 hours of forgetting	68%	53%	57%	58%	59%	59%
			Risk is low or negligible			
for 24 hours and had UPSI the week before forgetting	51%	70%	48%	51%	46%	52%
within the last 12 hours and had UPSI	67%	62%	52%	55%	52%	60%

UPSI, unprotected sexual intercourse.

women would prefer to receive this information from their physician or pharmacist as opposed to from the media and family/friends (which are mentioned as current primary sources of information). Only 27% of women indicated that 'EC is something I have already discussed with my doctor or gynaecologist' (data for individual counties not shown).

DISCUSSION

Findings and interpretation

Results of this survey indicate that UPSI is not rare – nearly a third (30%) of the target population reported at least one episode of UPSI during the preceding 12 months (at-risk population). However, less than a quarter of the at-risk population reported taking EC.

Although approximately a third of women indicated they did not know how EC works, the finding that most took EC within 24 hours after UPSI suggests that women understand the time-sensitive nature of this remedy. However, 42% thought EC was 100% effective when taken within 24 hours. This illustrates the need for better education on the efficacy of EC. Women should be made aware that ovulation could happen just before oral EC is taken, in which case it would not work.

Most women who did not take EC after UPSI either thought they were not at risk of pregnancy or did not think of EC at all. Only a small proportion provided reasons for not using EC that reflected misperceptions of associated risk, such as 'I thought it was dangerous' (4%) and 'I thought it was like an abortion' (6%). A higher proportion of respondents from Italy than from other nations agreed to the last statement ('I thought it was like an abortion'; 19%). This finding may reflect the impact of negative cultural and religious perceptions (or misperceptions) about EC. Such views in turn may contribute to underutilisation of this option. Cultural and religious perceptions may also affect HCP attitude towards prescribing EC[4].

Almost half of the at-risk population stated that the risk of pregnancy was negligible or low if they have sex at another time than during the mid-cycle period.

Table 7 Perception of pregnancy risk in the at-risk population with regard to withdrawal or condom failure.

	France n = 760	*Germany n = 256*	*Italy n = 347*	*Spain n = 436*	*UK n = 330*	*Total N = 2129*
			Risk is low or negligible			
My partner withdrew before ejaculating	59%	25%	57%	46%	46%	50%
			Risk is likely or very likely			
The condom tore during intercourse	93%	77%	86%	85%	87%	87%
The condom slipped off when my partner withdrew	60%	62%	77%	52%	60%	61%

Table 8 Attitudes of women in the target population towards emergency contraception (EC).

	'Agree' and 'Strongly agree'					
	France n = 2415	*Germany n = 1114*	*Italy n = 1234*	*Spain n = 1282*	*UK n = 1125*	*Total N = 7170*
EC is a responsible choice to prevent an unwanted pregnancy	86%	74%	67%	76%	84%	79%
EC should not be a taboo subject or make me feel guilty about using it	88%	75%	81%	86%	78%	83%
Taking EC is a demonstration that you have been irresponsible with your contraception	66%	54%	53%	45%	45%	55%
Taking EC is embarrassing and shameful	20%	24%	24%	20%	28%	23%

There is evidence on record that at least 10% of women with regular menstrual cycles are in their fertile window on any day of their cycle between days 6 and 21[11]. This means that there is a realistic chance of pregnancy after sexual intercourse outside the mid-cycle period[11,12]. Half of the women surveyed in the at-risk population associated use of withdrawal with a low or negligible risk of pregnancy. Further sexual health education is needed to help dispel such misconceptions.

In these five western European countries, most women see EC as a sensible choice to prevent pregnancy after UPSI, and agree that they should not be made to feel guilty for using it. However, other findings indicate a duality between seeing EC as a responsible choice and feeling embarrassed when EC is needed. One explanation for this attitude is that nearly a third of women who used EC felt judged by the prescriber.

Strengths and limitations of the study

A strength of this survey is that it included a large number (>7000) of sexually active, fertile women, from five European countries. The use of an internet-based survey introduces a selection bias by limiting participation to only those with internet access who are willing and able to complete such questionnaires. However, computer-based surveys are particularly suited to investigate sensitive topics such as sexuality and contraceptive behaviour, as the anonymity may allow respondents to be more frank about their behaviour[13].

The countries from which participants were drawn differ in their EC reimbursement and contraceptive access policies. These discrepancies may affect women's attitudes toward EC as well as EC uptake and usage. Identifying and accounting for these differences fell outside the scope of our research.

This study also did not attempt to distinguish between oral or intrauterine EC, and between the brands of oral EC. The goal was to shed light on the frequency of UPSI, the frequency with which women use EC following UPSI, and the attitudes underlying those choices. The brands or types of EC used were therefore purposefully not addressed. Additionally, any answers about brand or type of EC would have been drawn from participants' recall and might not be accurate. Another consideration was to avoid further data segmentation beyond reporting per-country and overall findings.

Differences in results in relation to other studies

Our results are consistent with some but not all data reported by others. The most recent survey by the Spanish Society for Contraception (SSC) found that 52% of all respondents considered that EC could endanger their health[7]. Yet just 4% (all countries) of the women who did not use EC after UPSI in our survey listed 'I thought it was dangerous' as reason for not using EC. Additionally, almost half (46%) of our target audience did not know if EC caused infertility, while an additional 10% thought that this was indeed the case. More than half of the SSC responders thought EC is 'like an abortion',[7] while nearly a third of the target audience in our survey supported the statement that EC is 'like an abortion' and only 6% gave 'I thought it was like an abortion' as a reason for not using EC. Differences in methodology between these two surveys may help explain this discrepancy.

Other studies support our finding that contraceptive failure/misuse is a common reason for using EC. In the Spanish study cited above, 78% of those who said they had used EC listed contraceptive failure/misuse as the reason for their choice[7]. Condom rupture was the most common reported reason for using EC (57% of respondents) in a survey of young women in Italy ($n = 754$; average age, 19.5 years old[8]. Similarly, a survey of individuals purchasing EC from a pharmacy in Portugal revealed that failure of regular contraception method was the most common reason for EC use (59%)[14].

Relevance of the findings: Implications for clinicians

Our findings suggest that physicians need to initiate a dialogue with their patients about sexual health, pregnancy risk, and EC *before* the need for EC surfaces. More than 80% of participants in our survey said that additional information about EC should be available. According to our findings most respondents wish to receive this information from their physician or pharmacist, yet only about a quarter of women said that they have discussed EC with their doctor or gynaecologist.

We suggest including comprehensive information about EC when counselling women about regular contraception, rather than only when prescribing EC. The need for EC may arise outside of normal office or pharmacy hours – over the weekend, late at night, or during holidays – limiting the chance to educate patients. Women seeking EC can feel judged by their physician/pharmacist and any discussion about more effective contraceptive methods at this time needs to be carefully worded.

Unanswered questions and future research

Further quantitative and qualitative research is required to see if there is an association between country of origin, religion or culture with the use and acceptability of different oral ECs and the fitting of an emergency intrauterine device. Such a study might provide clinicians and public health professionals with information to help tailor EC education, giving a greater understanding of concerns, preferences, and misconceptions held by these groups.

CONCLUSION

EC is underused in Europe because women underestimate the risk of pregnancy and have mistaken beliefs about EC. This emphasises the need for better education on EC.

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