

Original Article

Counselling and prescription of contraception related to pregnancy termination

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ABSTRACT

INTRODUCTION. Even though Denmark has the highest contraceptive use (42%) of the Nordic countries, 19% of all pregnancies in Denmark end in termination. Various contraceptive options are available, and unwanted pregnancies therefore ought to be avoidable. This study aimed to investigate if women received counselling and prescriptions for contraception during their termination and if this or other factors impacted their risk of repeat termination.

METHODS. This was an analytical, historical and retrospective cohort study. Data were collected manually from 310 medical records at the Hospital of Southern Jutland between 2016 and 2019.

RESULTS. A total of 82% of patients received contraceptive counselling during their termination, and 35% of these patients received a contraceptive prescription for future use. A total of 17% had a repeat termination within three years after receiving counselling; 23% of the women who did not receive contraceptive counselling experienced one or more repeat pregnancy terminations within the following three-year period. The risk of repeat termination during the follow-up period was significantly higher among the patients with a previous termination.

CONCLUSIONS. The majority of the women received contraceptive counselling at the time of their termination. Women who previously had an abortion were twice as likely to undergo a repeat termination during the follow-up period. Further research is necessary to establish whether counselling and prescription of contraceptives have a significant impact on repeat terminations.

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Despite Denmark having the highest use of contraceptives among the Nordic countries (42%) [1], 19% of all pregnancies in Denmark end in termination [2, 3]. In the past 25 years, confirmed terminated pregnancies have fluctuated from 16% to 19% [2-4], indicating that provoked abortion is a recurrent problem. Other studies have shown that counselling and time of contraception initiation in relation to abortion has a considerable impact on the repeat abortion rate [5].

Termination of a pregnancy can be a psychological burden for women, impacting psychological health through a higher risk of anxiety, depression and substance abuse disorders [6]. The relatively high number of pregnancy terminations is a concern as contraception is affordable and Denmark, a country with a high standard of living and quality education, has a thorough and extensive sexual education programme.

The rate of pregnancy termination in South Jutland, the Region of Southern Denmark, appears to have increased

from approximately 220 to 257 terminations per 1,000 births in the period from 2007 to 2018. Specifically, this was observed among women aged 20-29 years [3].

In 2015, 64% of married or partnered women of reproductive age worldwide used some form of contraception. Almost 90% employed modern contraceptive methods such as oral contraception, condoms, injections, intrauterine devices or sterilisation [7].

Adolescent cohorts studied of prevention of unintended pregnancies have shown that the best outcomes are associated with counselling focusing on contraception and sex education [8]. This is especially important because women's decision to use contraception may be impacted by structured counselling and by the cost of contraception [9].

However, the leading global contraceptive use and co-occurring elevated termination rates in Denmark warrant further investigation. To our knowledge, no research has investigated counselling and contraception at the time of termination and their effect on repeat termination in Denmark.

We hypothesised that a lack of counselling and prescription of contraceptives adjacent to pregnancy termination correlate with an increased termination rate.

This study aimed to investigate the effect of counselling and prescription of contraceptives on repeat terminations and to establish if women with repeat terminations had common risk factors.

Methods

Study design

We performed a single-centre, retrospective analysis of women referred for medical or surgical abortion in 2016 (from 1 January to 31 December).

Repeat termination was defined as one or more pregnancy terminations during a three-year follow-up period. Counselling was considered to have been given in cases where the physician had informed the patient about contraception at the time of the initial termination. If information regarding this matter or a prescription plan was documented in the patient's journal, the study considered that the patient had received counselling. Prescribed contraception was established by consulting the medical journal or the Danish shared medication record.

Data collection and management

Patient records were searched for counselling received either at the time of termination in 2016, in relation to previously induced pregnancy terminations, or at the time of a repeat termination within the three-year follow-up period. These data facilitated registration of potential risk factors associated with repeat pregnancy terminations.

Data were collected manually from the medical records using a standardised form created in SurveyXact (r). The standardised form was pilot-tested on 20 patient records and adjusted accordingly.

Descriptive statistics

Descriptive statistics were used to summarise the use of different forms of contraception in the study population. The use of contraceptive methods was coded as yes or no.

The women's age was categorised as < 20, 20-24, 25-29, 30-34, 35-39 or ≥ 40 years old.

Exclusion criteria and patient characteristics

The exclusion criteria were spontaneous abortion, missed abortion, abortion due to pathology of pregnancy (chromosome failure or malformation) and abortion after 12 weeks of pregnancy.

Information about the study population included age, parity, number of previous pregnancies and induced pregnancy terminations, type of termination, use of contraceptives, number of terminations during the follow-up period, counselling concerning contraceptives, gestational age, previous or current sexually transmitted diseases, smoking history, alcohol consumption, use of narcotics, and psychiatric diagnosis or medication stated in the medical journals.

Statistical analysis

STATA/IC version 16.0 was used for the statistical analysis (STATA Corp., LLC, USA). Using Fisher's exact test, p values were calculated for counselling at the time of termination and repeat terminations in the follow-up period.

Odds ratios (OR) were calculated with 95% confidence interval (CI) for repeat terminations in the follow-up period according to the women's age, counselling, and previous terminations by performing univariate and multivariate logistic regression.

Ethical considerations

This study was considered a quality assurance project for the Department of Obstetrics and Gynecology. The leading consultant at the Department of Obstetrics and Gynecology and the Medical Director of Hospital Southern Jutland approved data collection from patient records. Permission to collect and process data was granted by the Danish Data Protection Agency (R. no. 19/40031). This study does not disclose any individual patient information.

Trial registration: Approval R. no. 20/22908.

Results

In 2016, a total of 310 patients terminated a pregnancy at the Hospital of Southern Jutland (SHS) before 12 weeks of gestation.

A total of 253 patients (82%) received counselling at the time of the initial termination, with 17% having a repeat termination in the follow-up period (Table 1). A total of 57 patients (18%) did not receive counselling at the time of their abortion; 23% of these patients had a repeat abortion in the follow-up period (Table 1).

TABLE 1 Characteristics of the study population (mean age 27 years (14-46 years), N = 310).

	%	n ^a
<i>Previous pregnancy</i>		258
1	16	
2	20	
3	12	
≥ 4	22	
<i>Previous childbirth</i>		283
0	41	
1	19	
2	25	
3	10	
≥ 4	5	
<i>Previously induced termination</i>		244
0	57	
1	29	
2	9	
3	4	
≥ 4	2	
<i>Abortion during the follow-up period</i>		
<i>Counselling group:</i>		253
≥ 1	17	
<i>Non-counselling group:</i>		57
≥ 1	23	

a) The total number of patients varies due to a lack of information in some patients' records.

A total of 35% of the patients received a prescription for contraception following their termination in 2016. The most common contraceptive prior to termination was the combined oral contraceptive pill (COCP) (18%). Only 2% of the women used long-acting reversible contraception (LARC). Oral contraceptive pills (OCP) (18%) was the most frequently prescribed contraceptive after termination, and 65% had no prescription for contraceptives after their termination (Table 2).

TABLE 2 Type of contraception used and or prescribed by the study population.

	Used prior to termination, % (N = 310)	Prescribed for use after termination, % (N = 310)
Hormonal IUD	1.5	12
Copper IUD	0.5	1
Combined oral contraceptive pill	18	16
Progestin-only pill	1	2
Hormonal ring	0.5	1
Condom	9	0
Contraceptive injections	0	1
Contraceptive implant	0.5	3
Emergency contraception	1	0
Fertility awareness method	1	0
Withdrawal method	1	0
Lactational amenorrhoea method	1	0
Contraception in total	35	35
No contraception	22	65
No information in medical record	44	0

IUD = intrauterine device.

A total of 106 women (43%) had terminated a pregnancy before 2016 (Table 3). Patients with a previous termination were at significantly increased risk of a repeat termination (OR = 2.2; 95% CI: 1.1-4.4; $p < 0.026$) according to multivariate analysis adjusted for age and counselling. However, counselling did not significantly affect repeat termination rates (OR = 2.29; 95% CI: 0.99-5.29; $p = 0.051$). No increased risk, adjusted for age or other risk factors, was found.

TABLE 3 Outcome: risk of repeat termination in the three-year follow-up period.

	n	Univariate analysis		Multivariate analysis ^a	
		OR (95% CI)	p value	OR (95% CI)	p value
<i>Previously known induced termination^b</i>					
Yes	106	1.89 (1.0-3.5)	0.046	2.2 (1.10-4.41)	0.026
No	138	1.00 (ref.)		1.00 (ref.)	
Total	244				
<i>Counselling 2016</i>					
Yes	253	1.00 (ref.)		1.00 (ref.)	
No	57	1.48 (0.74-2.99)	0.27	2.29 (0.99-5.29)	0.051

CI = confidence interval; OR = odds ratio; ref. = reference.

a) Includes prior termination, age and counselling.

b) Includes patients who have obtained one or more terminations before 2016.

Discussion

This study investigated if patients received contraceptive counselling and prescriptions at the time of their pregnancy termination in 2016 and whether this had an effect on the number of repeat terminations.

We found that women with a previous pregnancy termination had a higher risk of having a repeat termination within three years than women without previous medical or surgical abortion. Age seemingly had no impact on repeat terminations, contrasting with previous reports of increased odds of repeat termination with age and parity [10].

Non-significant data indicated that women were more likely to have a repeat termination if they did not receive contraceptive counselling than if they did receive such counselling. However, no conclusion can be drawn from our data on this point. A larger cohort population is required to prove or disprove this hypothesis.

Previous studies have shown that effective contraceptive counselling and increased knowledge of the use of contraception are essential tools for decreasing the overall abortion rate [11]. Following good counselling, women are more likely to select a contraceptive method that is effective and right for them [8, 9]. Establishing the correct contraceptive method is important for all sexually active women. However, from our findings, women with a previous history of pregnancy termination run a higher risk of having a repeat abortion. Therefore, providing good counselling and follow-up services to these women is especially important.

Our results did not confirm with statistical significance that receiving counselling lowers the number of repeat terminations. In contrast to our small study population, large studies have shown that a lack of counselling is a risk factor for repeat terminations and that structured counselling regarding contraceptives is useful in lowering the number of future pregnancy terminations [10, 12]. Hence, counselling and prescription of contraceptives should not be neglected.

In agreement with previous studies [1], COCP was the most frequently used and prescribed contraceptive in the region of Southern Denmark. As Denmark has a high rate of hormonal contraceptive use, one would assume that Danish women would be well-protected. However, Danish women have a higher frequency of termination than women from Norway and Finland, even when they display the highest rate of hormonal contraceptives of all Nordic countries [7, 13]. This is surprising because the availability and use of contraception ought to ensure a reduction in the number of unwanted pregnancies.

Among the study population, 32% reported conceiving despite the use of a valid form of contraception, and 3% reported conceiving whilst using a less reliable contraceptive method: the fertility awareness method, the withdrawal method and the lactational amenorrhoea method; all with a lower Pearl Index than the rest of the methods. Even though 18% of the study population reported using COCP, our results indicate that this percentage may be higher as there is a lack of information on the choice of contraception in nearly half of the study population (Table 2). The results suggested that a third of the pregnancies may be due to contraceptive failure, which is confirmed by a higher proportion of contraceptive failure among users of short-acting reversible contraceptives (SARC). The effectiveness of SARC and other contraceptive methods depends on the user's actions and decisions [14, 15]. Therefore, correct use of OCP is essential in preventing pregnancies as this remains the most common form of contraception [16]. Failure of OCP is often due to incorrect intake, such as lacking adherence to daily intake or intake at an incorrect time interval. Furthermore, condoms may not be considered a completely safe option as 9% of women in our study conceived despite the use of condoms. Failure may be due to incorrect usage, such as late appliance or breakage during intercourse [17].

Less than 2% of the women conceived despite using a LARC, indicating that the combination of LARC and counselling is effective in preventing repeat termination [9]. The low failure rate for LARC and counselling aligns

with the literature [14, 15].

The strengths of this study are the additional knowledge on associations between contraceptive uses, counselling, prescription of contraceptives and repeat terminations, giving healthcare workers insight into the importance of these factors. However, the study also has several limitations.

Firstly, this study was affected by missing data, mainly due to unavailable medical referral letters from general practitioners and private gynaecologists. Secondly, the rate of repeat termination should be considered an underestimation as some may have occurred in other healthcare centres. Thirdly, sociodemographic data have proven difficult to collect [18]. Fourthly, adequate contraceptive counselling ought to include shared decision-making, including information about the characteristics of different types of contraception, including their effectiveness, method of use, effect on menstrual cycle, side effects and return to fertility.

Similarly, the content and quality of the contraceptive counselling were not uniformly described, measured or evaluated and should have been structured prospectively [19].

Patients may have received counselling before, during or following the termination by their general practitioner or a private gynaecologist, information which remains inaccessible to us and possibly causes underestimation in our results. We are aware that this is a potential source of selection bias in our study.

Further studies with more patients are needed to produce a more valid result regarding repeat termination. Future studies should include more patients and be rooted in the standardised definition of counselling shared by hospitals and primary healthcare, including general practitioners and private gynaecologists.

Nevertheless, our data demonstrated that previous termination is a risk factor for repeat termination. This may produce the impression that certain women are more challenging to engage in preventing unwanted pregnancies; the underlying reasons for this remain unclear. The authors suggest that the numbers could likely be lowered by improving counselling efforts, enhancing the accessibility and making contraceptives more affordable and by improving educational programmes and ensuring that contraceptive counselling is also integrated with the general practitioners.

Information bias from the patient or the physician cannot be eliminated as a potential source of error [20].

Conclusions

Previously known induced termination was a statistically significant risk factor for repeat termination. Our data suggested that patients who had not received counselling carried a higher risk of repeat termination, although this was not statistically significant. A larger cohort is needed to investigate if the lack of counselling and contraceptive prescription significantly impact repeat termination.

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