Awareness of contraceptive methods and their added health benefits among adolescents in Kronoberg region

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Abstract

Introduction: There are many known health benefits from contraceptive methods; reduced dysmenorrhea, less or no menstrual bleeding, less premenstrual syndrome and reduced risk of ovarian-, endometrial- and colon cancer are some of them. Little is known about what adolescents know of these benefits. This cross-sectional study investigated the awareness of contraceptive methods and their added health benefits among adolescents in Kronoberg region.

Material and methods: A digital survey was sent out to all students in 2nd and 3rd grade in municipal high schools in Växjö, Ljungby and Älmhult. A total of 2855 students were invited to participate, and 571 students completed the survey consisting of 16 questions regarding awareness of different contraceptive methods, knowledge of their added health benefits, where the students receive information about contraceptives and from where they wish to receive it. The respondents were divided into groups of women and men, users and non-users of contraceptives, 2nd and 3rd grade students, and differences between the groups were analysing using Fisher's exact test.

Results: The awareness of contraceptive methods and knowledge of added health benefits were higher among women and users of contraceptive methods. The level of knowledge among the women regarding less menstrual bleeding and dysmenorrhea, was 79% and 75% respectively, but lower concerning less premenstrual syndrome (49%), less acne (42%) and reduced risk of different cancer (9%). The majority would prefer education on contraceptives in school but also stated that the education on contraceptive methods in school was not good enough, wishing for a higher quality.

Conclusion: This study suggests that there is a difference between women and men, as well as between users and non-users of contraceptives, in awareness of contraceptive methods and their added health benefits. The results also indicates that the students wish for more and higher quality information about contraceptive methods in school education. To be able to draw any conclusions larger studies are needed.

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Introduction

Access to effective and acceptable contraception is linked to low rates of unintended pregnancies and abortions. The abortion rate among Swedish citizens aged 15-19 has been decreasing since 2007 (12). The increased use of long-acting reversible contraception (LARC), such as intrauterine devices and the etonogestrel implant, in young women could be a contributing factor, along with contraceptives being free of charge for women younger than 18 years old and available at a subsidized cost of 10 Euros per year up to age 25 (12,13).

Besides the contraceptive effect to avoid pregnancies, there are many other known positive health effects of hormonal contraceptives. The reduced risk of ovarian, endometrial and colon cancer has been established in several prospective cohort studies (1,2,3). An Australian cross-sectional study from 2011 with a response rate of 25% presented that only 13.7% of the study population of 305 women had knowledge of the decreased risk of ovarian cancer and only 10% knew about the decreased risk of endometrial cancer (11). A more recent cross-sectional study from northern Italy with a response rate of 77% presented a better knowledge among the participants of the protective effect of ovarian (67%), endometrial (53%) and colon cancer (31%) (14).

Dysmenorrhea, or painful menstrual cramping, is a common menstrual symptom among women, with a prevalence ranging from 42-92% in different studies (5,23,24). A recent multicentre study from France reported that as many as 43% of women with dysmenorrhea suffer heavily, missing out on school (23). In a nationwide, cross-sectional, internet-based survey among 43 000 Dutch women, a prevalence of 85% regarding dysmenorrhea was reported alongside psychological complaints (77%), and heavy bleeding in 54% of the women (6). A Cochrane analysis in 2001 concluded from four randomized controlled trials that combined oral contraceptive pills are more effective than placebo for relief of primary dysmenorrhea (7). Regarding progestin-only pills (POP), less bleeding or bleeding free cycles occur more frequently than with non-users (15).
The study from Italy in 2015 presented that only 30% knew that oral contraceptives decrease the risk of anaemia, whereas 79% knew about decreased risk of acne (14).

A recent Swedish study showed that approximately 42% of the participants in the ages of 15-19 years use some kind of hormonal contraceptive (8). A similar percentage of women, aged 16-20

years using some kind of hormonal contraceptive, was reported from another e-survey conducted in Sweden in 2021. In this study short acting reversible contraceptives (SARC) was most frequently used (31%) among women 16-20 years old. They also showed that the awareness of different contraceptive methods was generally higher among current users compared to non-users (10).

Despite the benefits, use of hormonal contraceptives has been decreasing over the past 10 years in Sweden (10,13,17), and meanwhile the fear of hormones has been increasing (20). In several studies the most common reason for cessation of combined hormonal contraceptives was perceived mental side effects (9,21), a reason that has increased over time (9).
Known negative health effects from combined oral contraceptives are a modest increased risk of venous thromboembolism (18), as well as a slightly increased transient risk of breast cancer during ongoing treatment (19) and possible negative mood effect in some women (22).

In the curriculum of the elementary school in Sweden, the education and conversations about sexual transmitted diseases and contraceptive methods are included from 7th grade (16). In the county of Kronoberg all students in 9th grade have a study visit at a Youth Clinic to receive more information concerning sexual and reproductive health.

In order to provide timely and comprehensive education of contraceptive methods and their added health benefits it is necessary to learn more about how adolescents retrieve information and would prefer to have information presented. The common assumption among health care workers is that there is a lack of knowledge.
What level of knowledge adolescents in Kronoberg have when it comes to awareness of different contraceptive methods and their positive health effects is unknown. We therefore conducted a cross sectional study using a survey to explore their level of knowledge.

Aim/research question

The aims of this study are to investigate youth's awareness of contraceptive methods and knowledge of added health benefits. The aim is also to compare awareness and knowledge between women and men, users and non-users of contraceptives, and 2nd and 3rd grade students.

Methods and Materials

Study design

We performed a cross-sectional study including second- and third-grade students in municipal senior high schools in Kronoberg region in Sweden. Exclusion criteria were age less than 16 years. A digital survey was sent out to all students by email administered by the school nurses and other administrative staff. In the email the participants received written information about the survey (appendix 1) and a link to the questionnaire (appendix 2). The digital questionnaire consisted of 16 questions and was administered in *esMaker*, a digital questionnaire platform provided by Entergate, that Region Kronoberg has an agreement with. The questionnaire contained previously used questions (Questions 6-10) (10) and questions constructed for the specific purpose. Before the study started 5 persons between 16 and 20 years evaluated the questions to make sure that the questions were easy to interpret and easy to answer. No modifications were made.

The e-survey consisted of five questions on demographic characteristics such as age, biological gender, gender identification, grade in school and the three last numbers of postal code. The postal code was later excluded since three postal codes was the same in two different cities. There were 11 questions on choice of contraceptive method, awareness of different contraceptive methods, criteria on aspects important for contraceptive choice, knowledge of added health benefits from contraceptives and from where students receive and/or retrieve information and where they would wish to receive this information from.

Sample

The study population consisted of 2nd and 3rd grade students in municipal senior high schools in the municipalities Växjö, Ljungby and Älmhult in Kronoberg region in Sweden. The survey was sent to 2855 students in the age of 16-20 years, covering all students in 2nd and 3rd grade. A total of 571 students responded, resulting in a response rate of 20%.

Statistical analysis

Data from completed e-surveys were automatically entered into an Excel (Microsoft 365 Version 2304) spread sheet. Continuous parametric and non-parametric data was described by medians and

interquartile ranges (IQR). Descriptive statistics were used to display frequencies. Group differences were analyzed by Fisher's exact test and a two-sided p-value of less than 0.05 was considered statistically significant. Data were analyzed using SPSS Statistics version 27.

Ethics

Before the participants approved to join the study, they received written information about the fact that the survey is voluntary and anonymous. Ethical permission is not required for anonymous surveys in Sweden where the commissioner of the report does not have access to identifying data.

Results

The survey was published on the 27th of January and closed on the 6th of April 2023. A total of 2855 students were invited by email and 571 students (20%) participated and answered the e-survey. The response rate was 394/1392 (28%) in women, 177/1463 (12%) in men, 276/1443 (19%) in 2nd grade students and 295/1412 (21%) in 3rd grade students (Table 1).

The demographic characteristics of students who participated in the e-survey are shown in Table 2. In total, 394/545 (69%) of the respondents were women. The median age was 18 years (IQR 18-17). Among the responders 342/571 (60.6%) currently used contraceptives, 199/571 (35.3%) did not use contraception, and 28/571 (5.0%) had stopped using contraceptives during the last 12 months. In the group of women, 277/394 (70.5%) stated that they currently used contraception.

The awareness of different contraceptive methods is shown in Table 3. The male condom received the highest awareness rating at 523/557 (94%). The lowest rating was for fertility apps other than Natural cycles 58/557 (10.4%). The female participants showed a statistically significant higher awareness than men concerning all contraceptives except condom using, diaphragm, female and male sterilization, where the difference was not statistically significant. Comparing current users of contraceptives with the group not using contraceptives during the last 12 months, the current users had a higher awareness concerning all contraceptives except condom using, female and male sterilization as well as interrupted intercourse. Comparing 2nd and 3rd grade students the only statistically difference in awareness concerned natural cycles and male sterilization, where 3rd grade students had higher awareness.

The knowledge of the positive health effects in the whole group varied as shown in Table 4. A total of 49/529 (9.3%) knew about the reduced risk of cancer, whereas 351/529 (66.4%) knew about reduced menstrual bleeding and 349/529 (66.0%) about reduced dysmenorrhea. There was a difference between women and men, where women had significantly more knowledge concerning all positive health effects except reduced risk of cancer and functional cysts. Comparing users of contraceptives to non-users the difference was very similar to the difference between women and men. There were no significant differences between 2nd and 3rd grade students.

The students had received the information about contraceptives mainly from youth clinics 278/555 (50.1%) as shown in Table 5. Another source of information was social media where 252/555 (45.4%) got the information. A total of 233/555 (42.0%) stated information from school. The source of information differed significantly between women and men, where men stated mainly receiving information from school 91/165 (55.2%) compared to women 142/390 (36.4%). The women mainly received the information from youth clinics 257/390 (65.9%). Seventeen students got the information through friends, one from a dating app, four participants from a partner and two from a gynecologist. A total of 353/556 (63.5%) of the participants considered themselves having enough knowledge about contraceptive methods (Table 6), where users of a contraceptive method reported a self-assessed good knowledge to a significantly higher extent compared to non-users.

As shown in Table 7, 83/561 (14.8%) were of the opinion that the education concerning contraceptives in school was good or very good. The majority of both women and men wanted to receive the information from the school education but with a better quality, as seen in Table 8. Two of the participants answered, "do not know", and another two participants wanted to search the information on their own.

The distribution of contraception used in groups of men, women and in total are displayed in Figure 1. The most commonly used contraception among women were combined oral contraceptives 125/367 (34.1%), followed by male condom 49/367 (13.4%) and low/medium dosed POP 45/367 (12.3%). Male condom was the most used contraceptive method among men 38/154 (24.7%).

As shown in Table 9, a total of 382/530 (72.1%) used contraceptives to avoid pregnancies. Among women 147/375 (39.4%) used it to treat dysmenorrhea and 116/375 (31.1%) to control bleeding pattern. Among men 53/155 (33.8%) used contraceptives to avoid infections, as the second most common reason after avoiding pregnancies 109/155 (69.4%). Four female students used it to avoid acne, one to avoid ovarian cysts, and one for mixed reasons. Two participants used it to avoid menstrual bleeding to help with gender dysphoria.

Discussion

In this e-survey, awareness of different contraceptive methods differed between men and women and between users and non-users of contraception, with women and users of contraception being more aware of different contraceptive methods. Among added health benefits, the highest awareness was for less or no menstrual bleeding (66.4%). The female participants reported the highest knowledge concerning less or no menstrual bleeding (79%) and reduced dysmenorrhea (77%). There was limited knowledge on other described health benefits. The male students reported a low level of knowledge of all health benefits. The majority of the female participants received information about contraceptives from youth clinics while the male participants mainly got the information from education in school. The majority of the participants considered the education in school poor. The preferred channel of information among the majority of participants was through education in school, although with higher quality.

The awareness of different contraceptive methods is an important factor when choosing a contraceptive. It is of high importance that adolescents receive information about this early in fertile age, to enable them to choose an effective and acceptable contraceptive method. In a recent study, awareness among women in Sweden aged 16-49, showed significant differences between users and non-users of contraceptives (10). As in our study, users had significantly higher awareness concerning all hormonal contraceptives. In our study, we also included male participants. We report highly significant differences between women's and men's awareness of contraceptive methods. Our interpretation is that women have acceptable levels of awareness concerning most methods while that of men seems less than acceptable.

To our knowledge this is the first study reporting what knowledge Swedish adolescents have regarding added health benefits from contraceptive methods. We found that women in the study group show satisfying knowledge regarding the added health benefits of reduced heavy menstrual bleeding 79% and dysmenorrhea 77%. The level of knowledge among the men in this study was significantly lower at 35% and 37% respectively. It is of high importance that these facts are known among adolescents since studies show that a significant proportion of women suffer from dysmenorrhea and heavy menstrual bleeding affecting their attendance in school and later employments (5,23,24).

Studies show that 3-6% of fertile women suffer from PMDD or Premenstrual dysphoric disorder, a disorder that comes with severe mood symptoms such as marked affective lability, irritability, and anxiety which severely affects daily life. Moreover, 20-30% of women have milder physical and/or mood symptoms, and thus have premenstrual syndrome (PMS) (25). In our study only 49% of the women and 25% of the men were aware that contraceptives can treat PMDD and PMS, suggesting that this information is perhaps not very well known.

The reduced risk of ovarian, endometrial and colon cancer with combined oral contraception has been established in several prospective cohort studies (1,2,3). Only 9.4% of the female and 8.3% of the male participants knew about this risk reduction. This is in line with a previous study from Australia which showed that 13.7% knew about reduced risk of ovarian cancer and 10% about the reduced risk of endometrial cancer (11). Our results suggest that this is not very often mentioned in the school education or at the youth clinics and other health care facilities. Since we know that the use of hormonal contraceptives has declined over the last 10 years (10,13,17), all the while the fear of hormones have increased (20), this information is important.

Acne vulgaris affects approximately 9% of the population worldwide and approximately 85% of those aged 12 to 24 years (26). Only 42% of the women and 16% of the men in this study knew that different contraceptives reduce acne vulgaris. This is a surprisingly low proportion since it is such a common problem among adolescents. This gives us a hint that information like this, beneficial for the adolescents, may not reach the target group, which is concerning. We also want to highlight the importance of knowledge among men since they too have a responsibility to guide and inform women in their surroundings, improving women's health.

Previous research does not tell us where Swedish adolescents get their information of contraceptives from. In this study we can report that sources of information may differ between women and men. A total of 66% of women reported that they receive the information from youth clinics while 55% of men receive information from school. As awareness of different contraceptive and knowledge on added health benefits differ, it seems like information received in school might not be enough. In fact, 53% of the study population rates the education in school as bad or very bad and 62% would prefer getting the information from school but with a higher quality than today. In the school curriculum regarding biology and contraceptive methods it says that knowledge of contraceptive methods is supposed to be prioritized in grade 7-9 (16). This study

hints that the sexual education of today's schools in Kronoberg, as well as information from youth clinics, does not cover nor succeed in achieving the aims of the curriculum and does not reach to the level of what is wished for among the students.

Strengths and limitations

A strength in this study is its broad study sample, since it was sent out to all municipal high schools in Växjö, Ljungby and Älmhult. This increases the possibility of participation from different socioeconomic backgrounds. It is also a strength that the participants are included from the schools and not from healthcare facilities, enabling a larger selection.

Since the e-survey mostly consisted of multiple-choice questions it is difficult to be entirely sure of the honesty in the answers, making it hard to draw any conclusions. There is most certainly a selection bias among the participants of the study, attracting those who are more interested in the subject, thereby more women. The low response rate of 20% makes it impossible to draw any conclusions on absolute levels. However, the relative proportions in awareness of contraceptive methods and knowledge on added health benefits allows for comparisons of what women and men know most and least about. The large absolute number of respondents (571) was high and provides knowledge on common perceived problems with the education in sexual and reproductive health.

Clinical implications

The results of this study are important and need to be visible for the schools to enable an improvement for the following students. Youth clinics also need to be aware of these results to look over the information being sent out to the adolescents during patient meetings and in outreach activities in school. This report can act as a reminder for us health care workers, to take the extra time to inform about the health benefits you can get from different contraceptive methods.

Conclusion

This study suggests that there is a difference between women and men, as well as between users and non-users of contraceptives, in awareness of contraceptive methods and its added health benefits. The results also indicates that the students wish for more information about contraceptive methods in school education. To be able to draw any conclusions larger studies are needed.

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References

1. Hannaford, Philip C, Iversen L, Macfarlane T, Elliott A M, Angus V, Lee. Mortality among contraceptive pill users: cohort evidence from Royal College of General Practitioners' Oral Contraception Study. *BMJ.* 2010;340:c927. doi: 10.1136/bmj.c927.
2. Iversen, Lisa, Sivaubramaniam S, Lee A, Fielding S, Hannaford P. Lifetime cancer risk and combined oral contraceptives: the Royal College of General Practitioners' Oral Contraception Study. *Am J Obstet Gynecol.* 2017;216(6):580.e1-580.e9. doi: 10.1016/j.ajog.2017.02.002.
3. Vessey M, Yeates D, Flynn S. Factors affecting mortality in a large cohort study with special reference to oral contraceptive use. *Contraception.* 2010 Sep;82(3):221-9. doi: 10.1016/j.contraception.2010.04.006
4. Bosetti C, Bravi F, Negri E, Vecchia C. Oral contraceptives and colorectal cancer risk: a systematic review and meta-analysis. *Hum Reprod Update.* 2009;15(5):489-98. doi: 10.1093/humupd/dmp017
5. Holmlund U. The experience of dysmenorrhea and its relationship to personality variables. *Acta Psychiatr Scand* 1990; 82(2):182-187
6. Schoep M E, Nieboer TE, van der Zanden M, Braat D, Nap A. The impact of menstrual symptoms on everyday life: a survey among 42,879 women. *Am J Obstet Gynecol.* 2019;220(6):569.e1-569.e7. doi: 10.1016/j.ajog.2019.02.048.
7. Proctor ML, Roberts H, Farquhar C M. Combined oral contraceptive pill (OCP) as treatment for primary dysmenorrhoea. *Cochrane Database Syst Rev.* 2001;(4):CD002120. doi: 10.1002/14651858.CD002120
8. Hogner H, Skjeldestad F G, Gemzell-Danielsson K, Heikinheimo O et al. Ecological study on the use of hormonal contraception, abortions and births among teenagers in the Nordic countries. *BMJ Open.* 2018;8(10):e022473. doi: 10.1136/bmjopen-2018-022473.
9. Lindh I, Hognert H, Milsom I., The changing pattern of contraceptive use and pregnancies in four generations of young women. *Acta Obstetricia et Gynecologica Scandinavica.* 2016 Nov;95(11):1264-1272. doi: 10.1111/aogs.13003
10. Envall N, Wallström T, Gemzell-Danielsson K, Kopp Kallner H. Use of contraception and attitudes towards contraceptive use in Swedish women: an internet-based nationwide

survey. *Eur J Contracept Reprod Health Care.* 2022;27(5):409-417. doi: 10.1080/13625187.2022.2094911.

11. Philipson S, Wakefield C, Kasparian N. Women's knowledge, beliefs, and information needs in relation to the risks and benefits associated with use of the oral contraceptive pill. *Journal of women's health.* 2011;20(4):635-642.
12. Exelgyn. Abortion Statistics, abortion rates per 1,000 women aged 15-49. 2021. [updated June 2022; cited 2023 March 7th]
13. Socialstyrelsen. 2023. *Statistikdatabas för läkemedel.* https://sdb.socialstyrelsen.se/if_lak/resultat.aspx (Hämtad 2023-03-08)
14. Nappi R E, Pellegrinelli A et al. Effects of combined hormonal contraception on health and wellbeing: Women's knowledge in northern Italy. *The European Journal of Contraception & Reproductive Health Care.* 2015;20(1):36-46. doi: 10.3109/13625187.2014.961598.
15. Korver, T. A double-blind study comparing the contraceptive efficacy, acceptability and safety of two progestogen-only pills containing desogestrel 75 micrograms/day or levonorgestrel 30 micrograms/day. *The European Journal of Contraception and Reproductive Health Care.* 1998;3(4):169-78. doi: 10.3109/13625189809167250.
16. Skolverket. 2022. *Läroplan för grundskolan, förskoleklassen och fritidshemmet Lgr22*. Stockholm: Skolverket. https://www.skolverket.se/undervisning/grundskolan/laroplan-och-kursplaner-for-grundskolan/laroplan-lgr22-for-grundskolan-samt-for-forskoleklassen-och-fritidshemmet?url=-996270488%2Fcompulsorycw%2Fjsp%2Fsubject.htm%3FsubjectCode%3DGRGRBIO01%26tos%3Dgr&sv.url=12.5dfee44715d35a5cdfa219f (Hämtad 2023-03-08)
17. Kopp Kallner H, Thunell L, Brynhildsen J, Lindeberg M, Gemzell Danielsson K. Use of Contraception and Attitudes towards Contraceptive Use in Swedish Women - A Nationwide Survey. PLoS One.2015;10(5):e0125990.
18. Lidegaard Ö, Milsom I, Geirsson R T, Skjeldestad. Hormonal contraception and venous thromboembolism. *Acta Obstet Gynecol Scand.* 2012;91(7):769-78. doi: 10.1111/j.1600-0412.2012.01444.x.
19. Cibula D, Gompel A, Mueck AO, La Vecchia C, Hannaford PC, Skouby SO, Zikan M, Dusek L. Hormonal contraception and risk of cancer. *Hum Reprod Update.* 2010 Nov-Dec;16(6):631-50. doi: 10.1093/humupd/dmq022
20. Hellstrom A, Gemzell Danielsson K, Kopp Kallner H. Trends in use and attitudes towards contraception in Sweden: results of a nationwide survey. *Eur J Contracept Reprod Health Care.* 2019;24(2): 154-160.

21. Sanders S, Graham C, Bass J, Bancroft J. A prospective study of the effects of oral contraceptives on sexuality and well-being and their relationship to discontinuation. *Contraception*. 2001 Jul;64(1):51-8. doi: 10.1016/s0010-7824(01)00218-9.
22. Lundin C, Gemzell Danielsson K, Bixo M, Moby L et al. Combined oral contraceptive use is associated with both improvement and worsening of mood in different phases of the treatment cycle – A double-blind, placebo-controlled randomized trial. *Psychoneuroendocrinology*. 2017 Feb;76:135-143. doi: 10.1016/j.psyneuen.2016.11.033.
23. Hadjou O, Jouannin A, Lavoue V, Leveque J, Esvan M, Bidet M. Prevalence of Dysmenorrhea in Adolescents in France. *Journal of Gynecology Obstetrics and Human Reproduction*. 2022;51(3). doi: 10.1016/j.jogoh.2021.102302.
24. Zondervan KT, Yudkin PL, Vessey MP, Jenkinson CP, Dawes MG, Barlow DH et al. The community prevalence of chronic pelvic pain in women and associated illness behaviour. *Br J Gen Pract* 2001; 51(468):541-547.
25. Hartlage SA, Freels S, Gotman N, Yonkers K. Criteria for premenstrual dysphoric disorder: secondary analyses of relevant data sets. *Arch Gen Psychiatry*. 2012 Mar;69(3):300-5.
26. Eichenfield DZ, Sprague J, Eichenfield LF. Management of Acne Vulgaris: A Review. *JAMA*. 2021;326(20):2055–2067

Appendix 1

Hej gymnasieelev!

Jag heter Ellen Eriksson och arbetar som läkare på Kvinnokliniken i Växjö. Jag vill fråga dig om du vill delta i ett forskningsprojekt för att förbättra kvinnor och mäns hälsa.

Vad är det för projekt och varför vill ni att jag ska delta?

Preventivmedel är jätteviktigt för att kvinnor ska få de barn som de vill ha vid rätt tillfälle. Preventivmedel kan också användas för att behandla mycket annat. Många inom vården tycker att ungdomar och vuxna kan ganska lite om varför det kan vara bra med olika preventivmedel och preventivmetoder. Med preventivmetod menar vi allt som gör att du har lägre risk för att bli med barn. Ofta fokuseras det på biverkningar och risker. Vi som jobbar inom vården tycker ofta annorlunda och ser många olika fördelar med preventivmedel. Vi vill se hur mycket gymnasieelever i Växjö, Älmhult och Ljungby kan idag. Anledning till detta är att vi kanske då kan förstå bättre vad vi behöver berätta mera om för att nå ungdomar och unga vuxna.

Hur går studien till?

Studien innebär att du som gymnasieelev fyller i en enkät som du når via länken nedan:
https://esmaker.net/nx2/s.aspx?id=8b97d936d079
Du kommer att få svara på frågor rörande preventivmedel och vad du har för kunskaper om fördelar av preventivmedel.

Vad händer med mina uppgifter?

Deltagandet är frivilligt och helt anonymt. bara de i forskargruppen kan se enkätresultaten men ingen kommer att kunna se att det är just du som svarat. Vid frågor är du välkommen att kontakta Ellen Eriksson för mer information.

Tack för att du läste och hoppas att du vill delta!

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Appendix 2

1. **Hur gammal är du?**
   - ☐ 16 år
   - ☐ 17 år
   - ☐ 18 år
   - ☐ 19 år
   - ☐ 20 år

2. **Vilken årskurs går du i?**
   - ☐ Årskurs 2
   - ☐ Årskurs 3

3. **Vilka är de 3 sista siffrorna i ditt postnummer?**
   Svar……

4. **Vad är ditt biologiska kön?**
   - ☐ Kvinna
   - ☐ Man

5. **Vad identifierar du dig som?**
   - ☐ Kvinna
   - ☐ Man
   - ☐ Annat

6. **Vilka preventivmedel eller annan preventivmetod känner du till? (Du kan ange flera)** Med preventivmetod menar vi olika former av åtgärder som minskar risken att bli med barn.
   - ☐ Kombinerade p-piller (sådana som innehåller både östrogen och gulkroppshormon)
   - ☐ Mellanpiller (Sådana som innehåller enbart gulkroppshormon där det inte är jätteviktigt att de tas exakt samma tid på dygnet)
   - ☐ Minipiller (Såna som innehåller enbart gulkroppshormon där det är JÄTTEVIKTIGT att de tas exakt samma tid på dygnet)
   - ☐ P-plåster
   - ☐ P-ring
   - ☐ Hormonspiral
   - ☐ P-stav
   - ☐ P-spruta
   - ☐ Kopparspiral
   - ☐ Kondom
   - ☐ Natural cycles
   - ☐ Annan app
   - ☐ Pessar

- ☐ Kvinnlig sterilisering
- ☐ Manlig sterilisering
- ☐ Akut p-piller vid behov
- ☐ Avbrutet samlag
- ☐ Säkra perioder

7. **Har du under de senaste 12 månaderna använt dig av något preventivmedel eller annan preventivmetod?** Med preventivmetod menar vi alla former av åtgärder som minska risken att bli med barn: tex- p-piller, spiral, säkra perioder, avbrutet samlag, kondom, sterilisering etc
   - ☐ Ja
   - ☐ Ja, men har slutat under de senaste 12 månaderna
   - ☐ Nej
8. **Vilken av följande preventivmetoder har du/din partner HUVUDSAKLIGEN använt under de senaste 12 månaderna?**
   - ☐ Kombinerade p-piller (sådana som innehåller både östrogen och gulkroppshormon)
   - ☐ Mellanpiller (Sådana som innehåller enbart gulkroppshormon där det inte är jätteviktigt att de tas exakt samma tid på dygnet)
   - ☐ Minipiller (Såna som innehåller enbart gulkroppshormon där det är JÄTTEVIKTIGT att de tas exakt samma tid på dygnet)
   - ☐ P-plåster
   - ☐ P-ring
   - ☐ Hormonspiral
   - ☐ P-stav (En plaststav som sätts in under huden i överarmen)
   - ☐ P-spruta
   - ☐ Kopparspiral
   - ☐ Kondom
   - ☐ Kondom + annan metod i tillägg
   - ☐ Pessar
   - ☐ FemCap
   - ☐ Natural cycles
   - ☐ Annan p-app
   - ☐ Avbrutet samlag
   - ☐ Manlig sterilisering
   - ☐ Kvinnlig sterilisering
   - ☐ Akut p-piller vid behov
   - ☐ Säkra perioder
   - ☐ Avbrutet samlag
   - ☐ Ingen preventivmetod

9. **Välj EN av dem nedan som är VIKTIGAST för dig i val av preventivmetod?** Med preventivmetod menar vi alla former av åtgärder som minska risken att bli med barn: tex- p-piller, spiral, säkra perioder, avbrutet samlag, kondom, sterilisering etc (Kryssfråga)
    - ☐ Det ska vara effektivt så man inte blir gravid
    - ☐ Vill inte behöva tänka på preventivmedel vid sex/möjliggör spontant och ostört sex
    - ☐ Skydd mot infektioner
    - ☐ Medel som verkar länge så att jag inte måste tänka på att ta det hela tiden
    - ☐ Att jag inte vill ta hormoner
    - ☐ Att inte få biverkningar
    - ☐ Att inte ha något i kroppen
    - ☐ Pris
    - ☐ Att det fungerar bra för min partner
    - ☐ Miljövänligt
    - ☐ Att inte gå upp i vikt
    - ☐ Kontrollera blödningsmönster vid menstruation
    - ☐ Få hjälp med smärtlindring under menstruation
    - ☐ Annat:_____

10. **Välj EN av dem nedan som är NÄST viktigast för dig när du väljer preventivmedel? (kryssfråga)** Med preventivmetod menar vi alla former av åtgärder som minska risken att bli med barn: tex- p-piller, spiral, säkra perioder, avbrutet samlag, kondom, sterilisering etc
    - ☐ Det ska vara effektivt så man inte blir gravid
    - ☐ Vill inte behöva tänka på preventivmedel vid sex/möjliggör spontant och ostört sex
    - ☐ Skydd mot infektioner
    - ☐ Medel som verkar länge så att jag inte måste tänka på det hela tiden
    - ☐ Att jag inte vill ta hormoner
    - ☐ Att inte få biverkningar
    - ☐ Att inte ha något i kroppen
    - ☐ Pris
    - ☐ Att det fungerar bra för min partner
    - ☐ Miljövänligt
    - ☐ Att inte gå upp i vikt
    - ☐ Kontrollera blödningsmönster under menstruation
    - ☐ Få hjälp med smärtlindring under menstruation
    - ☐ Annat:_____

11. **Varför använder du eller din partner preventivmedel? (Du kan ange flera)** Med preventivmetod menar vi alla former av åtgärder som minska risken att bli med barn: tex- p-piller, spiral, säkra perioder, avbrutet samlag, kondom, sterilisering etc
    - ☐ Undvika graviditet
    - ☐ Skydda mot infektioner
    - ☐ Smärta vid mens

- ☐ Riklig mens
- ☐ Kontrollera mensblödning
- ☐ PMS
- ☐ Annat:_____

12. **Vilka positiva hälsoeffekter av preventivmedel känner du till förutom att skydda mot graviditet? (Du kan ange flera)**
    - ☐ Minskar infektionsrisk
    - ☐ Cancerskydd
    - ☐ Mindre eller ingen mensblödning
    - ☐ Mindre mensvärk
    - ☐ Mindre PMS-besvär
    - ☐ Mindre acne
    - ☐ Färre cystor på äggstockarna

13. **Hur har du fått reda på den informationen? (Du kan ange flera)**
    - ☐ Skolan
    - ☐ Ungdomsmottagningen
    - ☐ Förälder/annan trygg vuxen
    - ☐ Sociala medier
    - ☐ Egen forskning
    - ☐ Annat:_____

14. **Tycker du att du kan tillräckligt mycket om preventivmedel?**
    - ☐ Ja
    - ☐ Nej

15. **Vad tycker du om skolans undervisning om preventivmedel?**
    - ☐ Mycket bra
    - ☐ Bra
    - ☐ Varken bra eller dålig
    - ☐ Dålig
    - ☐ Mycket dålig

16. **Var skulle du vilja få information om preventivmedel?**
    - ☐ Skolan som det är idag
    - ☐ Skolan fast bättre undervisning
    - ☐ Skolbesök till ungdomsmottagningen som det är idag
    - ☐ Skolbesök till ungdomsmottagningen fast bättre undervisning
    - ☐ Eget besök till ungdomsmottagningen
    - ☐ Broschyr hem
    - ☐ Söka information på nätet
    - ☐ Annat:…….

Appendix 3

Table 1. Sent out surveys and response rate.

	School grade 2	School grade 3	Women	Men	Total
Sent out surveys	1443	1412	1392	1463	2855
Answered surveys	276	295	394	177	571
Response rate	19%	21%	28%	12%	20%

Table 2. Demographic characteristics of participants by gender group.

	Women n=394 (%)	Men n=177 (%)	Total n=571 (%)
Number	394 (69)	177 (31)	571 (100)
Age (years)			
16	8 (2,0)	4 (2,3)	12 (2,1)
17	145 (36,8)	43 (24,3)	188 (32,9)
18	182 (46,2)	90 (50,8)	272 (47,6)
19	50 (12,7)	30 (16,9)	80 (14,0)
20	9 (2,3)	10 (5,6)	19 (3,3)
Median age (IQR)	18 (18-17)	18 (18-17)	18 (18-17)
School grade			
2	203 (51,5)	73 (41,2)	276 (48,3)
3	191 (48,5)	104 (58,8)	295 (51,8)
Missing data	0	0	0
Current user of contraceptives	277 (70,5)	65 (38,0)	342 (60,6)
Quit using contraceptives during the last 12 months	20 (5,1)	8 (4,7)	28 (5,0)
Have not used during the last 12 months	98 (24,9)	101 (59,0)	199 (35,3)
Missing data	1	6	7

Table 3. Awareness of different contraceptives

Contraceptive methods	Women n=392 (%)	Men n=165 (%)	Total n=557 (%)	P-value	Non-users n=190 (%)	Users n=364 (%)	Total n=554 (%)	P-value	Grade 2 n=269 (%)	Grade 3 n=288 (%)	Total	P-value
Male condome	364 (92,9)	159 (96,4)	523 (93,9)	0,125	180 (94,7)	340 (93,4)	520 (93.9)	0,582	256 (95,2)	267 (92,7)	523 (93,9)	0,288
Implant	349 (89,0)	129 (78,2)	478 (85,8)	0,001*	150 (78,9)	325 (89,3)	475 (85,7)	0,001*	231 (85,9)	247 (85,8)	478 (85,8)	1,000
Hormonal IUD	322 (82,1)	97 (58,8)	419 (75,2)	0,000*	122 (64,2)	295 (81,0)	417 (75,3)	0,000*	196 (72,9)	223 (77,4)	419 (75,2)	0,239
Combined oral contraceptions	318 (81,1)	103 (62,4)	421 (75,6)	0,000*	115 (60,5)	303 (83,2)	418 (75,5)	0,000*	206 (76,6)	215 (74,7)	421 (75,6)	0,623
Emergency contraception	315 (80,4)	93 (56,4)	408 (73,2)	0,000*	112 (58,9)	294 (80,8)	406 (73,3)	0,000*	192 (71,4)	216 (75,0)	408 (73,2)	0,340
POP medium and low dosed	304 (77,6)	49 (29,7)	353 (63,4)	0,000*	90 (47,4)	261 (71,7)	351 (63,4)	0,000*	167 (62,1)	186 (64,6)	353 (63,4)	0,598
Coitus interuptus	276 (70,4)	92 (55,8)	368 (66,1)	0,001*	118 (62,1)	248 (68,1)	366 (66,1)	0,158	185 (68,8)	183 (63,5)	368 (66,1)	0,210
Cu-IUD	267 (68,1)	72 (43,6)	339 (60,9)	0,000*	85 (44,7)	254 (69,8)	339 (61,2)	0,000*	152 (56,5)	187 (64,9)	339 (60,9)	0,046
Male sterilisation	263 (67,1)	109 (66,1)	372 (66,8)	0,844	130 (68,4)	240 (65,9)	370 (66,8)	0,570	168 (62,5)	204 (70,8)	372 (66,8)	0,039*
Patch	256 (65,3)	66 (40,0)	322 (57,8)	0,000*	86 (45,3)	234 (64,3)	320 (57,8)	0,000*	154 (57,2)	168 (58,3)	322 (57,8)	0,797
Combined vaginal ring	231 (58,9)	51(30,9)	282 (50,6)	0,000*	73 (38,4)	209 (57,4)	282 (50,9)	0,000*	125 (46,5)	157 (54,5)	282 (50,6)	0,062
Female sterilisation	230 (58,7)	100 (60,6)	330 (59,2)	0,706	120 (63,2)	208 (57,1)	328 (59,2)	0,202	150 (55,8)	180 (62,5)	330 (59,2)	0,120
Safe periods	178 (45,4)	51 (30,9)	229 (41,1)	0,002*	78 (41,1)	150 (41,2)	228 (41,2)	1,000	114 (42,4)	115 (39,9)	229 (41,1)	0,605
Injection	167 (42,6)	36 (21,8)	203 (36,4)	0,000*	49 (25,8)	153 (42,0)	202 (36,5)	0,000*	103 (38,3)	100 (34,7)	203 (36,4)	0,428
Natural cycles	157 (40,1)	17 (10,3)	174 (31,2)	0,000*	40 (21,1)	134 (36,8)	174 (31,4)	0,000*	69 (25,7)	105 (36,5)	174 (31,2)	0,006*
Pessar	60 (15,3)	16 (9,7)	76 (13,6)	0,081	18 (9,5)	58 (15,9)	76 (13,7)	0,038*	30 (11,2)	46 (16,0)	76 (13,6)	0,109
Other App	51 (13,0)	7 (4,2)	58 (10,4)	0,001*	11 (5,8)	47 (12,9)	58 (10,5)	0,009*	25 (9,3)	33 (11,5)	58 (10,4)	0,410
Missing data	2	12	14		9	6	17		7	7	14	

p-value calculated by Fischer's exact test, *p-value of 0.05 or less. Participants were asked if they were aware of mentioned methods. IUD: Intrauterine device; POP: progestin only pill

Table 4. Knowledge of positive health benefits from contraceptives

Positive health effects of contraceptives	Women n=381 (%)	Men n=148 (%)	Total n=529 (%)	P-value	Users n=354 (%)	Non-users n=174 (%)	Total n=528 (%)	P-value	Grade 2 n=256 (%)	Grade 3 n=273 (%)	Total n=529 (%)	P-value
Less or no menstrual bleeding	299 (78,5)	52 (35,1)	351 (66,4)	0,000*	264 (74,6)	87 (50,0)	351 (66,5)	0,000*	176 (68,8)	175 (64,1)	351 (66,4)	0,270
Less dysmenorrhea	295 (77,4)	54 (36,5)	349 (66,0)	0,000*	259 (73,2)	90 (51,7)	349 (66,1)	0,000*	166 (64,8)	183 (67,0)	349 (66,0)	0,646
Less PMS related symtoms	186 (48,8)	38 (25,7)	224 (42,3)	0,000*	171 (48,3)	53 (30,5)	224 (42,4)	0,000*	105 (41,0)	119 (43,6)	224 (42,3)	0,597
Reduced acne	159 (41,7)	24 (16,2)	183 (34,6)	0,000*	142 (40,1)	40 (23,0)	182 (34,5)	0,000*	87 (34,0)	96 (35,2)	183 (34,6)	0,785
Protect against infections	134 (35,2)	106 (71,6)	240 (45,4)	0,000*	122 (34,5)	117 (67,2)	239 (45,3)	0,000*	116 (45,3)	124 (45,4)	240 (45,4)	1,000
Reduced risk of cancer	36 (9,4)	13 (8,8)	49 (9,3)	0,869	28 (7,9)	21 (12,1)	49 (9,3)	0,150	24 (9,4)	25 (9,2)	49 (9,3)	1,000
Reduced functional ovarian cysts	23 (6,0)	11 (7,4)	34 (6,4)	0,557	19 (5,4)	15 (8,6)	34 (6,4)	0,186	17 (6,6)	17 (6,2)	34 (6,4)	0,861
Missing data	13	29	42		11	23	43		20	22	42	

p-value calculated by Fischer's exact test, *p-value of 0.05 or less. Participants were asked if they had knowledge of mentioned positive health effects. PMS: Premenstrual syndrome

Table 5. Where information has been retrieved

Source of information	Women n=390 (%)	Men n=165 (%)	Total n=555 (%)	P-value	Non users n=193 (%)	Users n=360 (%)	Total n=553 (%)	P-value
School	142 (36,4)	91 (55,2)	233 (42,0)	0,000*	110 (57,0)	123 (34,2)	233 (42,1)	0,000*
Youth clinics	257 (65,9)	21 (12,7)	278 (50,1)	0,000*	32 (16,6)	246 (68,3)	278 (50,3)	0,000*
Parent/other grown up	115 (29,5)	39 (23,6)	154 (27,7)	0,178	44 (22,8)	110 (30,6)	154 (27,8)	0,059
Social media	185 (47,4)	67 (40,6)	252 (45,4)	0,162	96 (49,7)	156(43,3)	252 (45,6)	0,153
Own research	168 (43,1)	75 (45,5)	243 (43,8)	0,640	76 (39,4)	165 (45,8)	241 (43,6)	0,151
Other	20 (5,1)	26 (15,8)	46 (8,3)		23 (11,9)	23 (6,4)	46 (8,3)	
Missing data	4	12	16		4	5	18	

p-value calculated by Fischer's exact test, *p-value of 0.05 or less. Participants were asked from where they had received information about positive health effects.

Table 6. Whether the participants consider themselves to have enough knowledge about contraceptive methods or not

Do you have enough knowledge about contraceptives?	Women n=390 (%)	Men n=166 (%)	Total n=556 (%)	P-value	Users n=361 (%)	Non users n=192 (%)	Total n=553 (%)	P-value
Yes	241 (61,8)	112 (67,5)	353 (63,5)	0,212	242 (67,0)	108 (56,3)	350 (63,3)	0,016*
No	149 (38,2)	54 (32,5)	203 (36,5)		119 (33,0)	84 (43,8)	203 (36,7)	
Missing data	4	11	15		4	7	18	

p-value calculated by Fischer's exact test, *p-value of 0.05 or less. Participants were asked if they considered themselves to have enough knowledge about contraceptives.

Table 7. Students' opinion about the school education regarding contraceptive methods.

Opinion about the education in school	Women n=392 (%)	Men n=169 (%)	Total n=561 (%)
Very good	6 (1,5)	7 (4,1)	13 (2,3)
Good	41 (10,5)	29 (17,2)	70 (12,5)
Neither good or bad	115 (29,3)	65 (38,5)	180 (32,1)
Bad	129 (32,9)	34 (20,1)	163 (29,1)
Very bad	101 (25,8)	34 (20,1)	135 (24,1)
Total	392 (100)	169 (100)	561 (100)
Missing data	2	8	10

Participants were asked for their opinion about the education in school regarding contraceptive methods.

Table 8. From where the students wish to get the information about contraceptive methods.

Source of information	Women n=391 (%)	Men n=165 (%)	Total n=556 (%)	P-value
School like today	37 (9,5)	48 (29,1)	85 (15,3)	0,000*
School but better education	269 (68,8)	78 (47,3)	347 (62,4)	0,000*
School visit to youth clinics as today	72 (18,4)	12 (7,3)	84 (15,1)	0,001*
School visit to youth clinic with better education	137 (35,0)	30 (18,2)	167 (30,0)	0,000*
A visit of your own to youth clinics	93 (23,8)	10 (6,1)	103 (18,5)	0,000*
Brochure sent home	69 (17,6)	11 (6,7)	80 (14,4)	0,001*
Search for information online	97 (24,8)	43 (26,1)	140 (25,2)	0,750
Other	5	17	22	
Missing data	3	12	15	

p-value calculated by Fischer's exact test, *p-value of 0.05 or less. Participants were asked from where they wished to receive information about contraceptive methods.

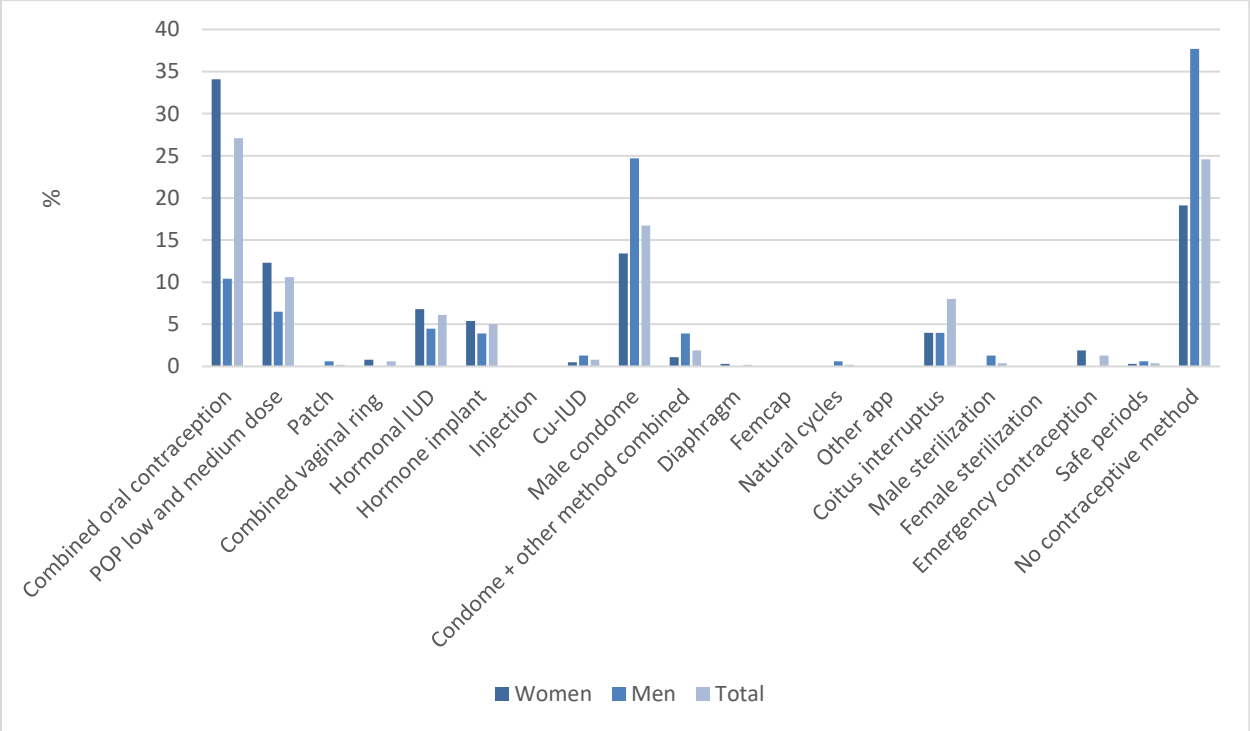

Figure 1. Main contraceptive method used during the last 12 months in women and men (%). POP: Progesterone only pills; IUD: intrauterine device.

Table 9. Reasons for using contraceptives by gender group.

Reasons for using contraceptives	Female n=375 (%)	Male n=155 (%)	Total n=530 (%)	P-value
Avoid pregnancy	273 (73,2)	109 (69,4)	382 (72,1)	0,397
Dysmenorrhea	147 (39,4)	14 (8,9)	161 (30,4)	0,000*
Control bleeding pattern	116 (31,1)	11 (7,0)	127 (24,0)	0,000*
Heavy menstrual bleeding	91 (24,4)	5 (3,2)	96 (18,1)	0,000*
Protect against infections	57 (15,3)	53 (33,8)	110 (20,8)	0,000*
PMS	53 (14,2)	8 (5,1)	61 (11,5)	0,003*
Do not use contraceptives	43 (11,5)	26 (16,6)	69 (13,0)	0,122
Other reason	24 (6,4)	14 (8,9)	38 (7,2)	
Missing data	19	22	41	

p-value calculated by Fischer's exact test, *p-value of 0.05 or less. Participants were asked why they used a contraceptive method; more than one answer was ok.