

Repeated pregnancies in adolescents

Kai Haldre, MD, PhD

East Tallinn Central Hospital
Women's Clinic

Centre for Infertility Treatment

Sexual Health Clinic of the Sexual
Health Association of Estonia

Republic of Estonia

1.3 million inhabitants

13 630 births in 2017

Independent republic since 1918

Soviet occupation since the
WW II – thereafter very closed
society

Regained independence in 1991

Parliamentary democracy

EU, NATO member since 2004

The least religious country in
Europe?

World Bank high-income economy
country since 2006

≈69% Estonians

≈31% (mainly) Russian-speaking
minority

datlasbook.com

Europe



AIM

- to analyze trends in adolescent pregnancies in Estonia from 1992 until 2017
- to analyze the proportion of adolescent repeated pregnancies from 1996 until 2017

CONTEXT

- *abortion on request legal since 1955*
- *no parental consent for abortion needed for the minors (except in 2009-2015)*
- *1/3 of the Health Insurance price of the abortion paid by woman*
- *all minors have Health Insurance*
- *first sexual intercourse **17.5 years** among 25-29 y olds (2015) – increased 1 year during the study period*

- *modern contraception* arrived in Estonia in the beginning of 1990ies
- mandatory school *sexuality education* 1996
- network of youth SRH *counselling services* since 1990ies

- the percentage of teenage mothers from all parturients was **14.6% in 1992** and **2.0% in 2017**
- the percentage of adolescents from all women terminating pregnancy was **11.4% in 1992** and **7.2% in 2017**



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Original article

Adolescent Pregnancy, Birth, and Abortion Rates Across Countries: Levels and Recent Trends



Gilda Sedgh, Sc.D. ^{*}, Lawrence B. Finer, Ph.D., Akinrinola Bankole, Ph.D., Michelle A. Eilers, and Susheela Singh, Ph.D.

Guttmacher Institute, New York, New York

Article history: Received February 11, 2014; Accepted September 4, 2014

Keywords: Teen pregnancies; Cross-national comparisons; Pregnancy trends; Pregnancy outcomes

A B S T R A C T

Purpose: To examine pregnancy rates and outcomes (births and abortions) among 15- to 19-year olds and 10- to 14-year olds in all countries for which recent information could be obtained and to examine trends since the mid-1990s.

Methods: Information was obtained from countries' vital statistics reports and the United Nations Statistics Division for most countries in this study. Alternate sources of information were used if needed and available. We present estimates primarily for 2011 and compare them to estimates published for the mid-1990s.

Results: Among the 21 countries with complete statistics, the pregnancy rate among 15- to 19-year olds was the highest in the United States (57 pregnancies per 1,000 females) and the lowest rate was in Switzerland (8). Rates were higher in some former Soviet countries with incomplete statistics; they were the highest in Mexico and Sub-Saharan African countries with available information. Among countries with reliable evidence, the highest rate among 10- to 14-year olds was in Hungary. The proportion of teen pregnancies that ended in abortion ranged from 17% in Slovakia to 69% in Sweden. The proportion of pregnancies that ended in live births tended to be higher in countries with high teen pregnancy rates ($p = .02$). The pregnancy rate has declined since the mid-1990s in the majority of the 16 countries where trends could be assessed.

Conclusions: Despite recent declines, teen pregnancy rates remain high in many countries. Research on the planning status of these pregnancies and on factors that determine how teens resolve their pregnancies could further inform programs and policies.

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IMPLICATIONS AND CONTRIBUTION

Adolescent pregnancy rates declined since the mid-1990s in most developed countries with reliable trend data, but the rate remains exceptionally high in the United States. Rates are even higher in Sub-Saharan Africa and in some former Soviet countries where data quality is variable. The proportion of pregnancies ending in abortion varies widely across countries.

METHODS

Abortion and birth data

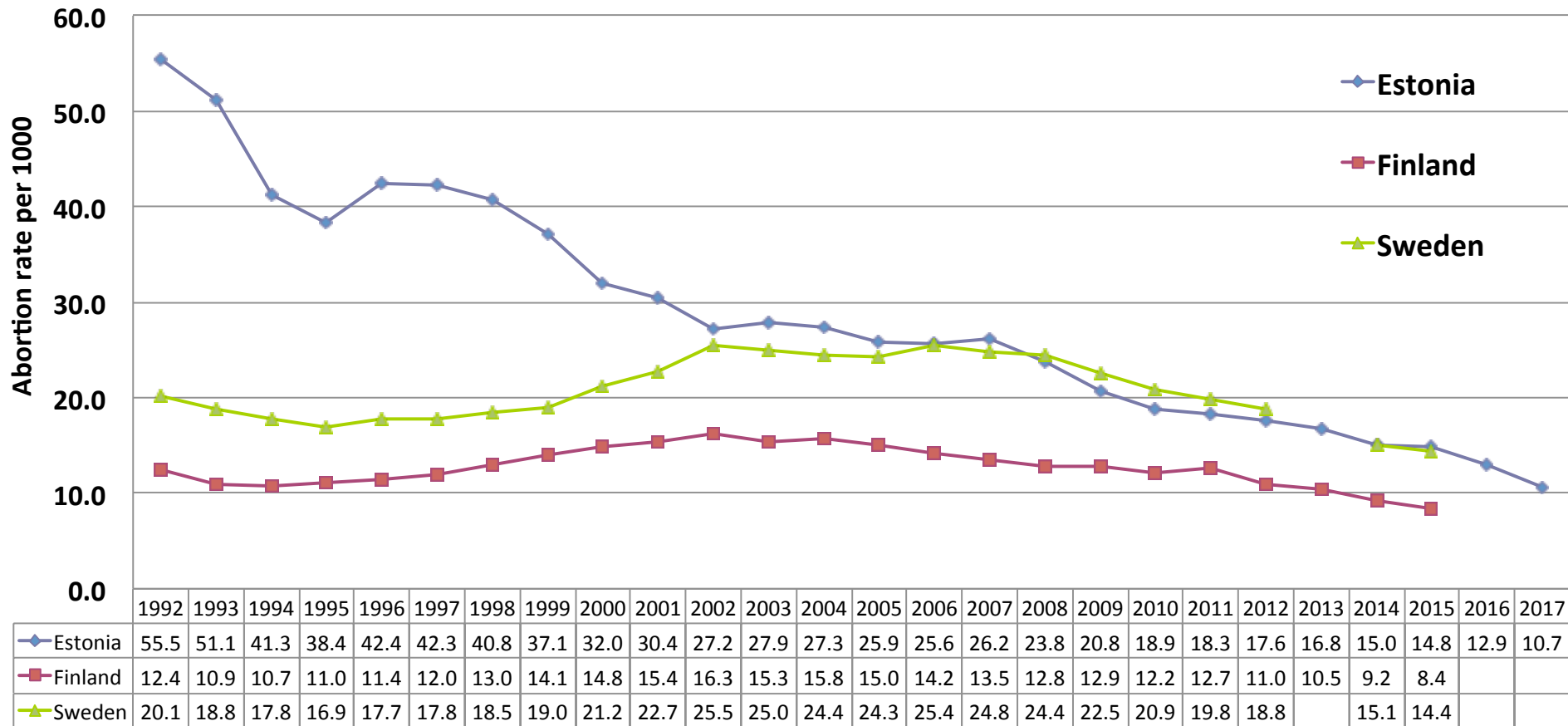
- the Estonian Medical Statistical Bureau (1992–1995)
- the Estonian Abortion Registry (EAR, 1996–2017)
- the Estonian Medical Birth Registry (established in 1992)
- mean annual female population 15-19y
 - 1992: 52 154
 - 2017: 29 040



RESULTS

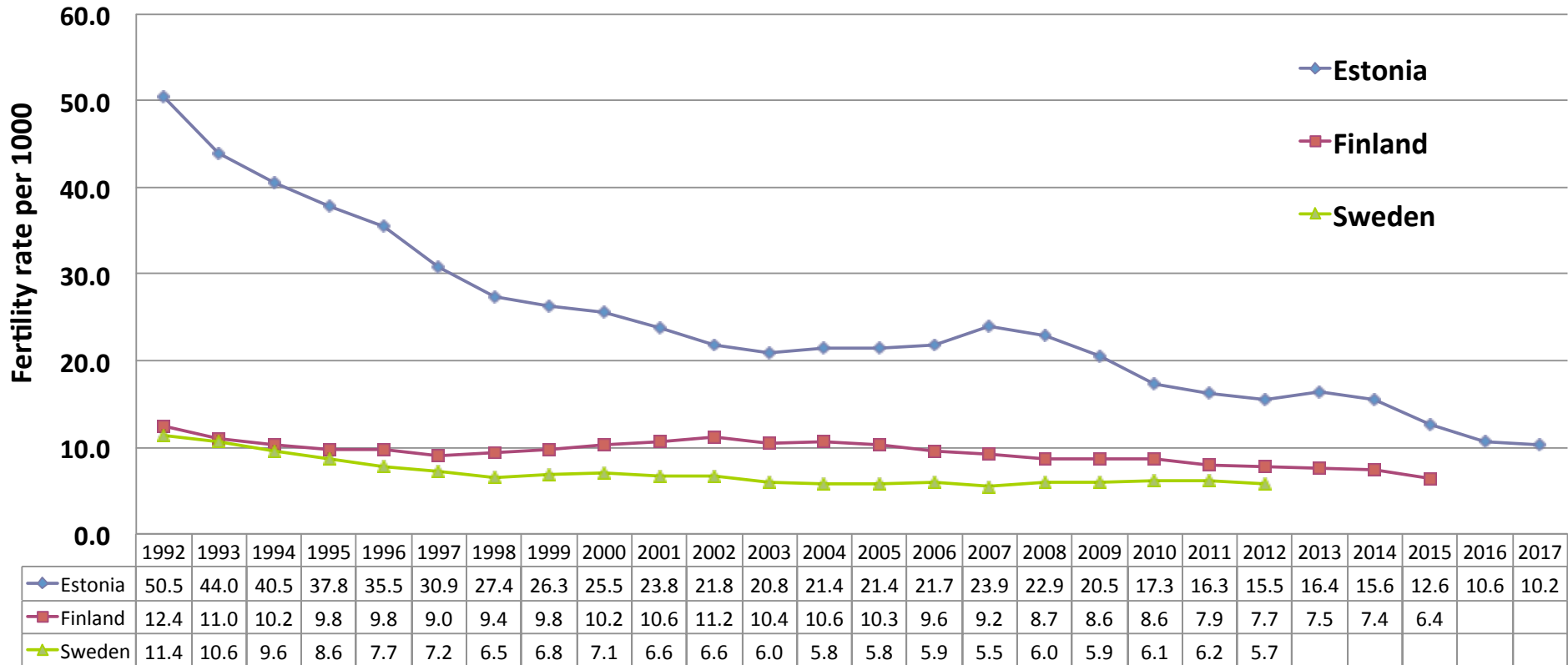
Number of legally induced abortions per 1000 women, 15-19 years, 1992-2017, Estonia, Finland, Sweden

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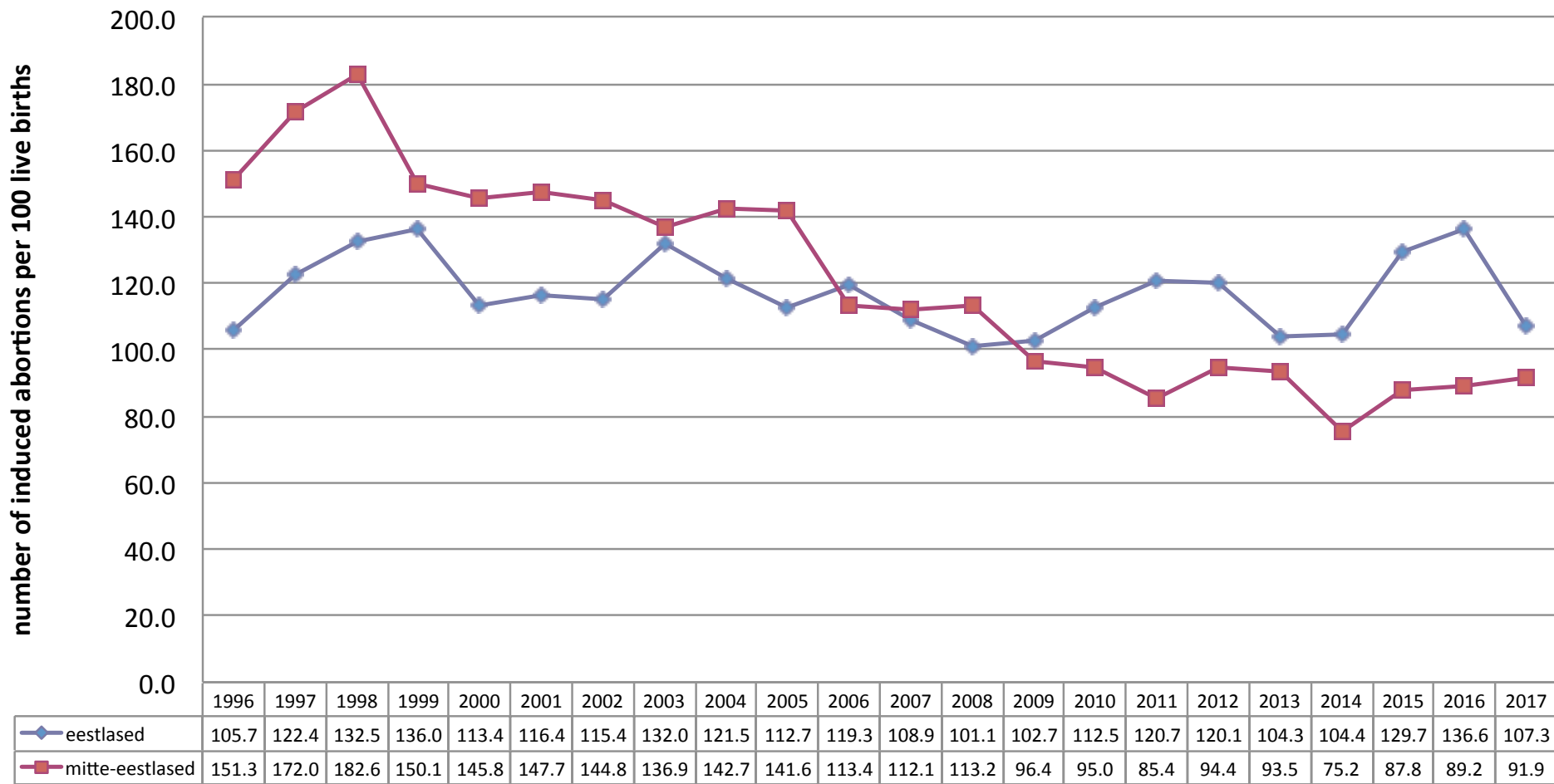


Number of live births per 1000 women, 15-19 years, 1992-2017, Estonia, Finland, Sweden

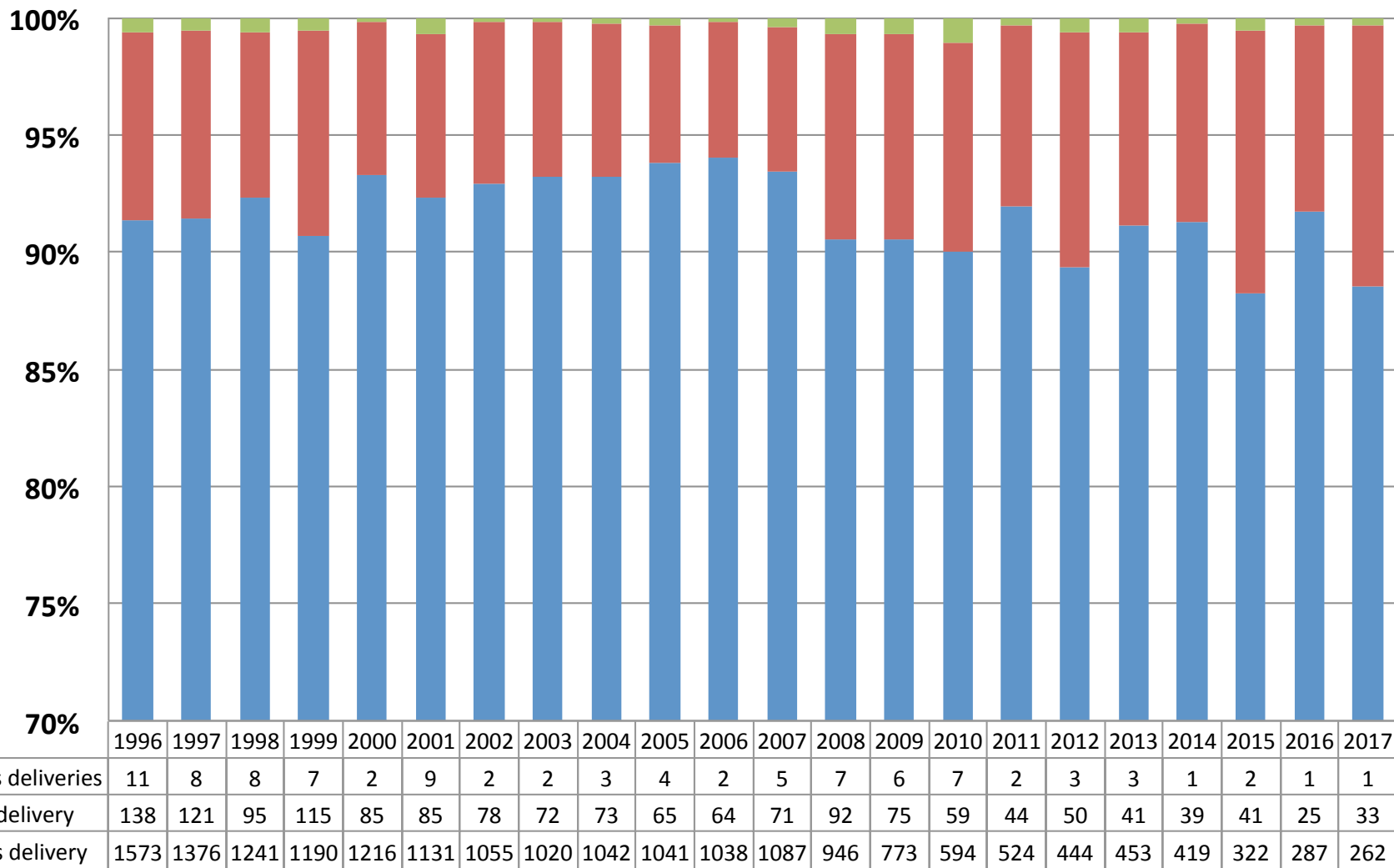
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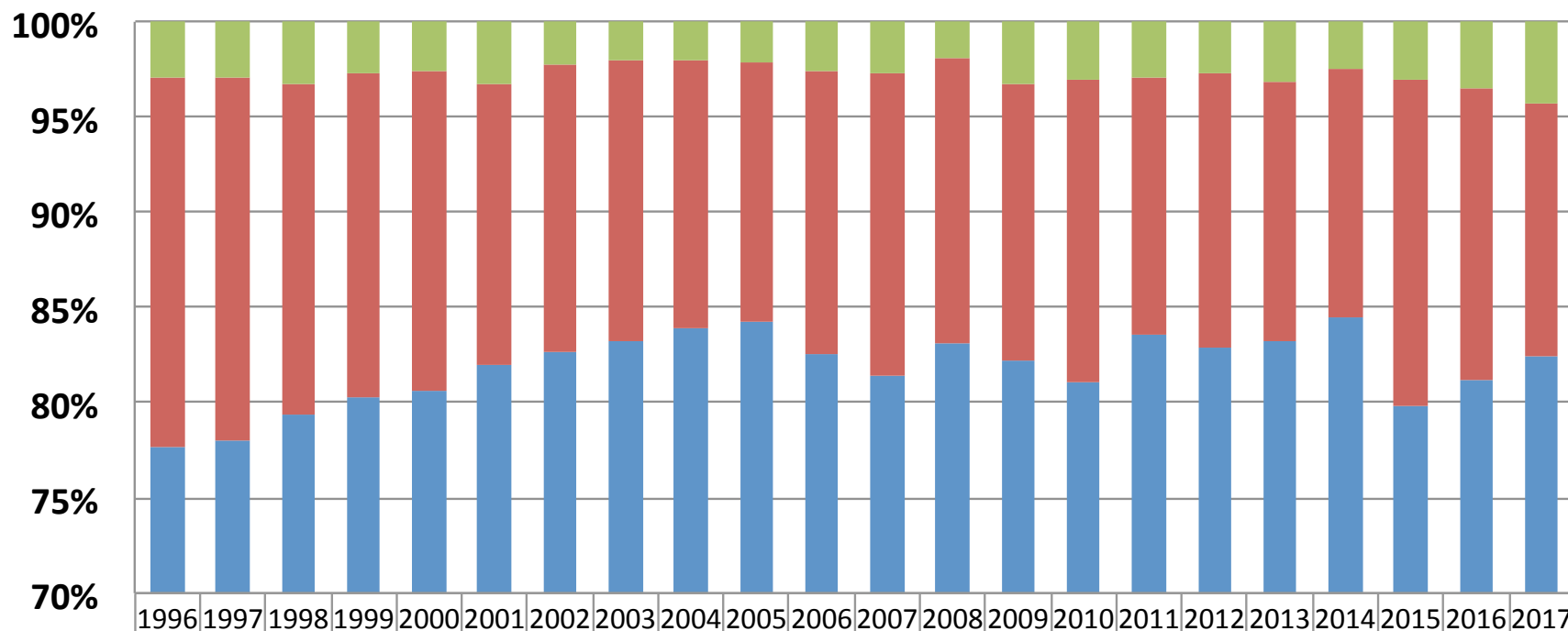
Abortion ratio, Estonians, non-Estonians, women 15–19 years, 1996–2017, Estonia



Proportion (%) of multipara, women 15–19 years, 1996–2017, Estonia

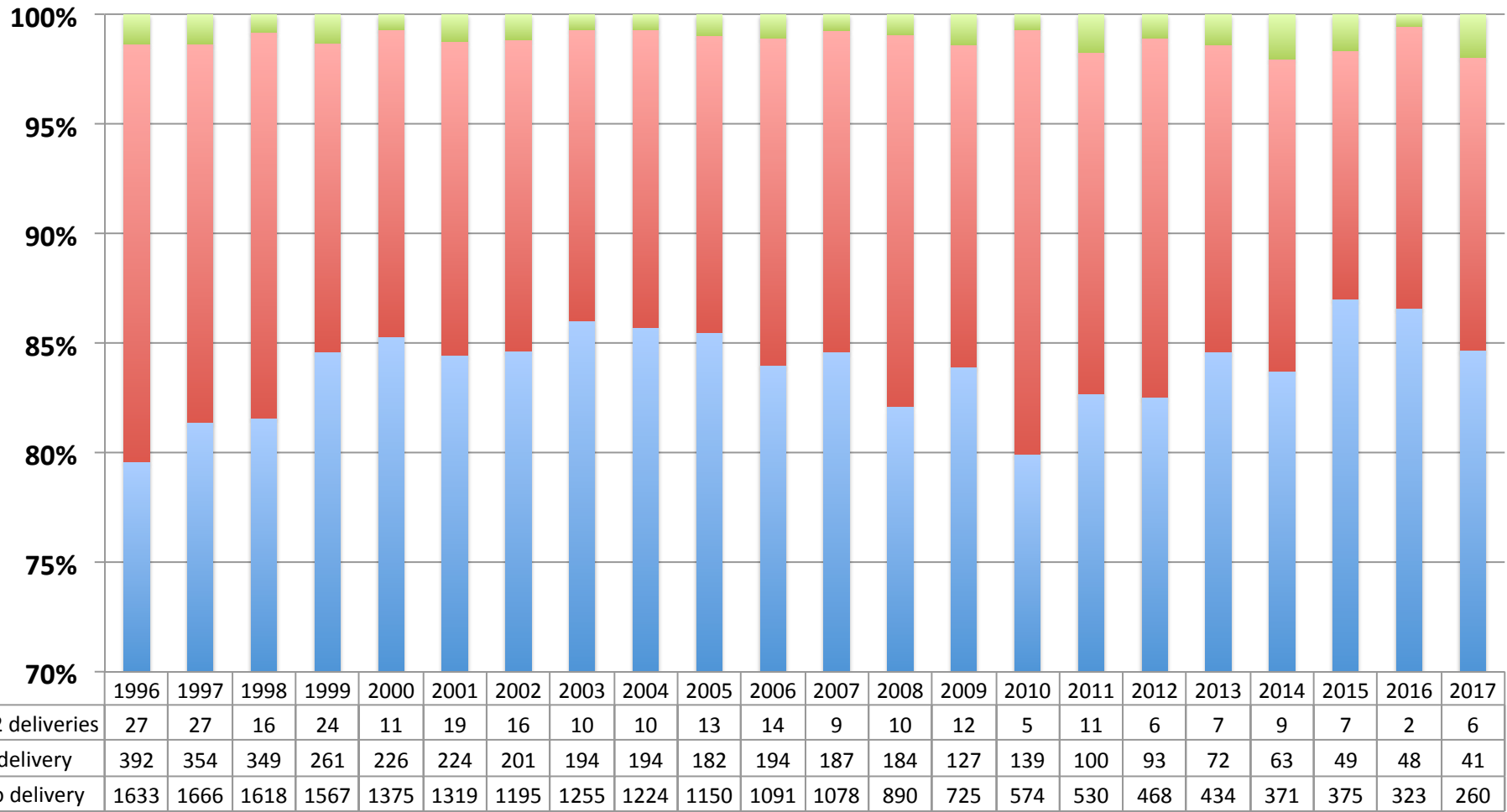


Proportion of repeated induced abortions (termination of pregnancy, TOP), women aged 15–19 years, 1996–2017, Estonia



| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| ≥2 previous TOP | 61 | 59 | 65 | 49 | 41 | 51 | 31 | 29 | 29 | 29 | 34 | 35 | 21 | 28 | 22 | 19 | 15 | 16 | 11 | 13 | 13 | 13 |
| 1 previous TOP | 397 | 392 | 345 | 317 | 272 | 230 | 214 | 216 | 200 | 183 | 193 | 201 | 162 | 126 | 114 | 86 | 82 | 70 | 58 | 74 | 57 | 41 |
| no previous TOP | 1594 | 1596 | 1576 | 1486 | 1300 | 1283 | 1166 | 1212 | 1198 | 1133 | 1071 | 1037 | 901 | 710 | 582 | 536 | 470 | 427 | 374 | 344 | 303 | 253 |

Proportion of previous deliveries in abortion patients, women 15–19 years, 1996–2017, Estonia



DISCUSSION

Definitions?

- repeat pregnancy/abortion
- rapid repeat pregnancy/abortion
- subsequent pregnancy/abortion

interval 6 m? 12 m? 18 m? 24 m?

during years under 20?

Trends in teenage termination of pregnancy and its risk factors: a population-based study in Finland, 1987–2009

S. Leppälahti¹, M. Gissler^{2,3}, M. Mentula¹, and O. Heikinheimo^{1,*}

¹Department of Obstetrics and Gynaecology, Kätölopisto Hospital, University of Helsinki and Helsinki University Central Hospital, PO Box 610, 00029-HUS, Helsinki, Finland ²THL National Institute for Health and Welfare, PO Box 30, FI-00271 Helsinki, Finland ³NHV Nordic School of Public Health, Gothenburg, Sweden

*Correspondence address. Tel: +358-50-4271533; E-mail: oskari.heikinheimo@helsinki.fi

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STUDY QUESTION: What are the current trends in teenage termination of pregnancy (TOP) and its risk factors?

SUMMARY ANSWER: The incidence of teenage TOP fluctuated substantially during the study period and the incidence of repeat TOP among adolescents increased markedly in the 2000s.

WHAT IS KNOWN ALREADY: Teenage pregnancy is associated with difficulties in psychological, sexual and overall health. The proportion of teenage pregnancies resulting in termination varies by country and time, but only few countries have reliable statistics on TOPs.

STUDY DESIGN, SIZE, DURATION: This nationwide retrospective register study included all the TOPs ($n = 52\,968$) and deliveries ($n = 58\,882$) in Finland between 1987 and 2009 among girls <20 years of age at the beginning of pregnancy.

PARTICIPANTS/MATERIALS, SETTING, METHODS: The cohorts were divided into three subgroups; 13–15- ($n = 6087$), 16–17- ($n = 18\,826$) and 18–19- ($n = 28\,055$) year-olds.

MAIN RESULTS AND THE ROLE OF CHANCE: After an initial steady decline, the incidence of teenage TOP increased by 44% between 1993 (8.0/1000) and 2003 (11.5/1000), and thereafter declined by 16% until 2009 (9.7/1000). The incidence was higher in older adolescents, but the trends were alike in all age groups. Early TOPs (performed at <56 days of gestation) more than tripled from 11 to 36% during the study period. However, the proportion of second-trimester TOPs remained steady at ~7%. Young age [13–15 years: odds ratio (OR) 1.75 (95% confidence interval (CI) 1.57–1.94), 16–17 years: OR 1.13 (1.05–1.23), 18–19 years: OR 1 (reference category)] and non-use of contraception [(OR 11.16 (10.15–12.27))] were related to a higher risk of second-trimester TOP. The incidence of repeat TOP increased by 95% from 1.9/1000 to 3.7/1000 in 18–19-year-olds and by 120% from 0.5/1000 to 1.1/1000 in 16–17-year-olds between 1993 and 2009. Increasing age [13–15 years: OR 0.16 (95% CI 0.14–0.19), 16–17 years: OR 0.49 (0.45–0.52), 18–19 years 1 (Ref)], living in an urban area [rural: OR 0.62 (0.56–0.67), urban: OR 1 (Ref)] and having undergone a second-trimester TOP [OR 1.46 (1.31–1.63)] were risk factors for repeat TOP. The planned use of intrauterine contraception for post-abortion contraception increased from 2.6 to 6.2% and among girls with repeat TOP from 10 to 19%.

LIMITATIONS: The retrospective nature of the study remains a limitation and the quality of the data is reliant on the accuracy of reporting. We were not able to link repeat TOPs of the same woman in our data set. However, the share of repeat abortions was moderate.

WIDER IMPLICATIONS OF THE FINDINGS: The rate of teenage TOP seems to rapidly reflect changes in national sexual and reproductive health services and policy. The rising rate of repeat TOP is alarming and may represent a sign of marginalization among these girls. All efforts to maintain a low rate of teenage pregnancy are welcomed.

STUDY FUNDING: Helsinki University Central Hospital Research Funds, the Academy of Finland and the National Institute for Health and Welfare, Finland.

COMPETING INTERESTS: The authors of the study have no competing interests to report.

Key words: adolescent / abortion / induced / risk factors / pregnancy

DISCU



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Original article

Previous Pregnancies Among Young Women Having an Abortion in England and Wales



Lisa Ann McDaid, M.Sc.^{a,*}, Jacqueline Collier, Ph.D.^b, and Mary Jane Platt, M.D.^c

^a School of Health Sciences, University of East Anglia, Norwich Research Park, Norwich, United Kingdom

^b School of Psychology, University of East Anglia, Norwich Research Park, Norwich, United Kingdom

^c Norwich Medical School, University of East Anglia, Norwich Research Park, Norwich, United Kingdom

Article history: Received October 13, 2014; Accepted June 10, 2015

Keywords: Teenage; Pregnancy; Termination; Abortion; Birth; Repeat; Subsequent

A B S T R A C T

Purpose: The purpose of this study was to use national statistics on abortions carried out in England and Wales to more precisely estimate the proportion of young women aged <20 years obtaining an abortion who have had one or more previous pregnancies.

Methods: Secondary analysis of abortion data from the Office of National Statistic and the Department of Health by parity for women aged <20 years, ordinarily residing in England and Wales, from 1992 to 2013.

Results: Over the past 20 years, the proportion of teenagers in England and Wales having an abortion as a result of a subsequent pregnancy increased by 33% (from .172 in 1992 to .229 in 2013). Most of this increase occurred before 2004, and the proportion now appears to have stabilized. In 2013, 22.9% of the young women aged <20 years who underwent an abortion had had at least one previous pregnancy (either a birth or an abortion). Only a minority (<5% of young women who obtained an abortion) had had more than one previous pregnancy.

Conclusions: The findings show that nearly one in four teenagers presenting for an abortion have already been in contact with health services for a previous birth or abortion. Greater policy emphasis must be placed on the accurate identification of the proportion of teenage pregnancies that occur as a result of a subsequent pregnancy and developing more effective “secondary prevention” interventions to help the first-time pregnant and parenting teenagers manage their future reproductive lives and prevent further unplanned pregnancies.

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IMPLICATIONS AND CONTRIBUTION

Nearly, one in four teenagers aged <20 years presenting for an abortion in England and Wales have already had previous pregnancies. This adds to evidence which indicates that teenagers who become pregnant are a high-risk group for further pregnancies and suggests that greater emphasis must be placed on developing more sophisticated and effective “secondary prevention” interventions.

Factors influencing repeated teenage pregnancy: a review and meta-analysis

Joemer C. Maravilla, RN; Kim S. Betts, PhD; Camila Couto e Cruz; Rosa Alati, PhD

NOVEMBER 2017 **American Journal of Obstetrics & Gynecology**



OBJECTIVE: Existing evidence of predictors of repeated teenage pregnancy has not been assessed rigorously. This systematic review provides a comprehensive evaluation of protective and risk factors that are associated with repeated teenage pregnancy through a metaanalytical consensus.

DATA SOURCES: We used PubMed, EMBASE, CINAHL, ProQuest, PsychINFO, ScienceDirect, Scopus, and Web of Science databases from 1997–2015 and the reference list of other relevant research papers and related reviews.

STUDY ELIGIBILITY CRITERIA: Eligibility criteria included (1) epidemiologic studies that analyzed factors associated with repeated pregnancy or birth among adolescents <20 years of age who were nulliparous or experienced at least 1 pregnancy, and (2) experimental studies with an observational component that was adjusted for the intervention.

STUDY APPRAISAL AND SYNTHESIS METHODS: We performed narrative synthesis of study characteristics, participant characteristics, study results, and quality assessment. We also conducted random-effects and quality-effects metaanalyses with meta-regression to obtain pooled odds ratios of identified factors and to determine sources of between-study heterogeneity.

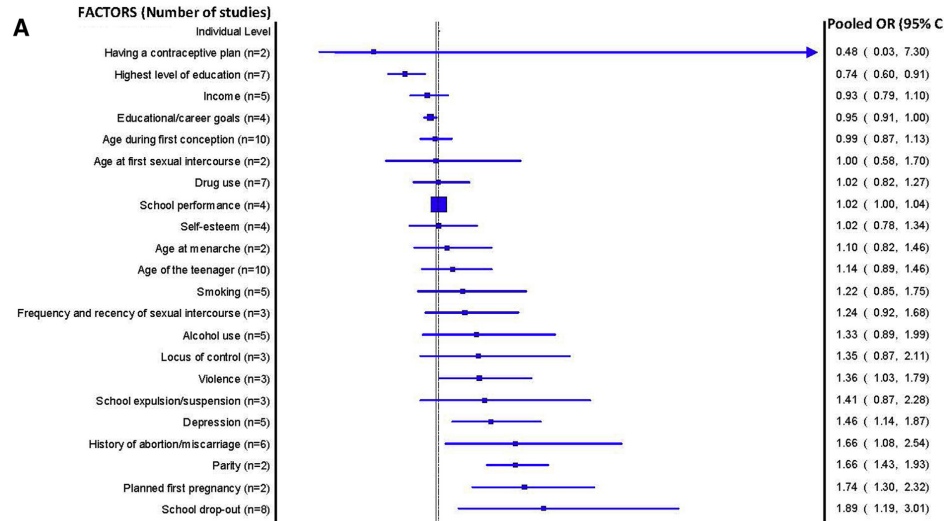
RESULTS: Twenty-six eligible epidemiologic studies, most from the United States ($n=24$), showed >47 factors with no evidence of publication bias for each metaanalysis. Use of contraception (pooled odds ratio, 0.60; 95% confidence interval, 0.35–1.02), particularly long-acting reversible contraceptives (pooled odds ratio, 0.19; 95% confidence interval, 0.08–0.45), considerably reduced repeated teenage pregnancy risk. Among studies about contraception, the number of follow-up visits (adjusted coefficient, 0.72; $P=.102$) and country of study (unadjusted coefficient, 2.57; permuted $P=.071$) explained between-study heterogeneity. Education-related factors, which included higher level of education (pooled odds ratio, 0.74; 95% confidence interval, 0.60–0.91) and school continuation (pooled odds ratio, 0.53; 95% confidence interval, 0.33–0.84), were found to be protective. Conversely, depression (pooled odds ratio, 1.46; 95% confidence interval, 1.14–1.87), history of abortion (pooled odds ratio, 1.66; 95% confidence interval, 1.08–2.54), and relationship factors, such as partner support, increased the repeated teenage pregnancy risk.

CONCLUSION: Contraceptive use, educational factors, depression, and a history of abortion are the highly influential predictors of repeated teenage pregnancy. However, there is a lack of epidemiologic studies in low- and middle-income countries to measure the extent and characteristics of repeated teenage pregnancy across more varied settings.

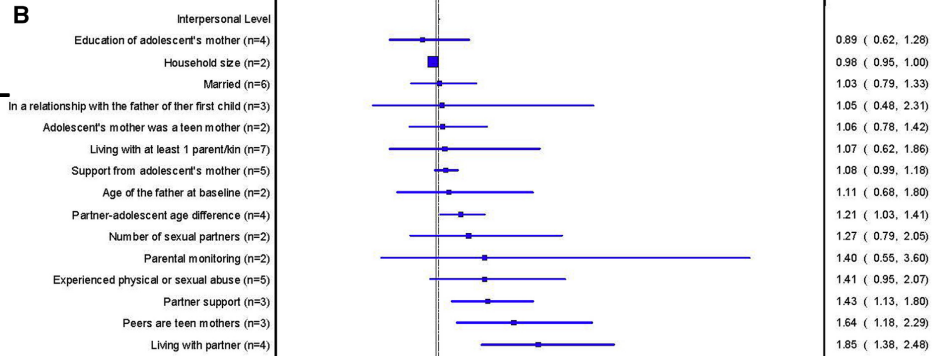
Key words: adolescent, factor, metaanalysis, repeated teenage pregnancy, review

FIGURE 2
Metaanalyses of factors of repeated teenage pregnancies and births

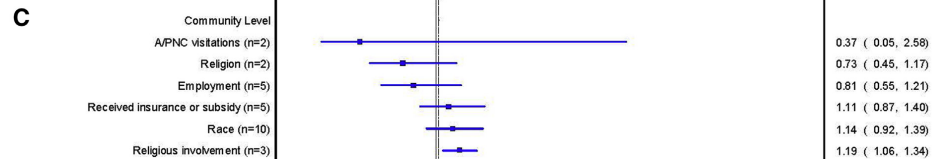
INDIVIDUAL LEVEL



INTERPERSONAL LEVEL



COMMUNITY LEVEL



FAMILY PLANNING



MULTIPLE FACTORS



THE SEXUAL ACCEPTABILITY OF CONTRACEPTION

The Sexual Acceptability of Contraception: Reviewing the Literature and Building a New Concept

Jenny A. Higgins

Gender and Women's Studies, University of Wisconsin-Madison

Nicole K. Smith

Office of Population Research, Princeton University

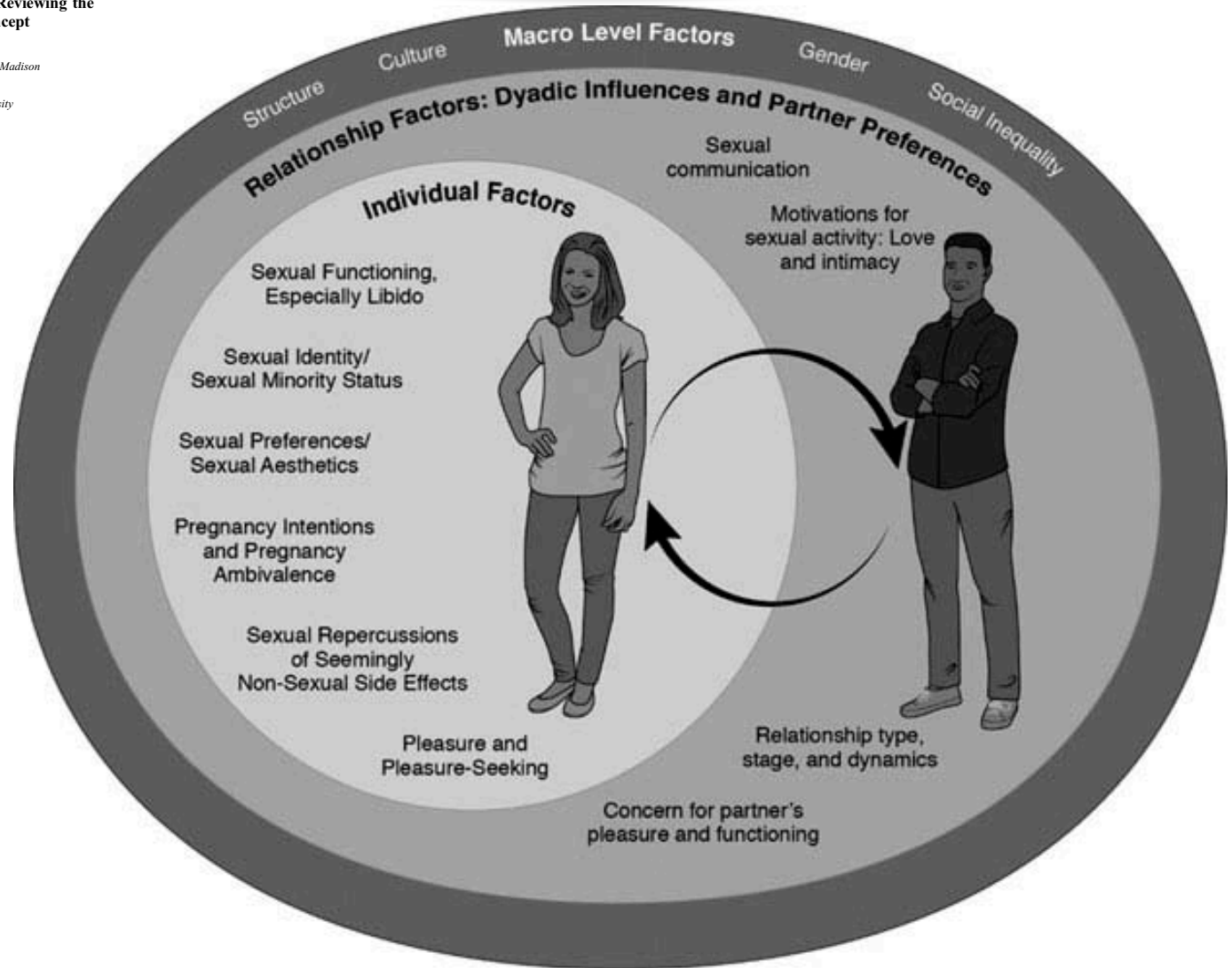


Figure 1. Conceptual model of the sexual acceptability of contraception.

Who has a repeat abortion? Identifying women at risk of repeated terminations of pregnancy: analysis of routinely collected health care data

Stephen J McCall,^{1,2} Gillian Flett,³ Emmanuel Okpo,⁴
Sohinee Bhattacharya⁵

For numbered affiliations see
end of article.

Correspondence to

Dr Sohinee Bhattacharya,
Epidemiology Group, Dugald
Baird Centre for Research on
Women's Health, Aberdeen
Maternity Hospital, University of
Aberdeen AB25 2ZL, UK;
sohinee.bhattacharya@abdn.ac.
uk

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Reprod Health Care*
2016;**42**:133–142.

ABSTRACT

Background Repeat termination of pregnancy highlights the issues of unplanned pregnancies and effective post-termination contraceptive practices.

Objective To examine the risk factors at the time of a first termination that are associated with subsequent repeat termination.

Design Registry-based study.

Setting Grampian region of Scotland, UK.

Methods A retrospective study using data from the Termination of Pregnancy Database, NHS Grampian for the period 1997–2013.

Associations between repeat termination and women's sociodemographic characteristics and contraceptive use were assessed using multivariable logistic regression models.

Results This study showed that 23.4% of women who had an initial termination ($n=13\ 621$) underwent a repeat termination. Women who had repeat terminations were more likely to be aged under 20 years at their initial termination with an adjusted odds ratio (AOR) of 5.59 [95% confidence interval (CI) 4.17–7.49], to belong to the most deprived social quintile [AOR 1.23 (95% CI 1.05–1.43)], and to be more likely to have had two or more previous livebirths [AOR 1.51 (95% CI 1.12–2.02)] or miscarriages [AOR 1.40 (95% CI 1.02–1.92)]. The likelihood of having a repeat termination was increased in women who had a contraceptive implant as post-termination contraception [AOR 1.78 (95% CI 1.50–2.11)] compared to women who left with none or unknown methods following the first termination. In those who had repeat terminations, women who had an implant or Depo-Provera[®] were at increased odds of repeat termination in the 2–5 years interval compared to the 0–2 years after their initial termination.

Key message points

- ▶ Risk factors for repeat terminations of pregnancy include younger age at initial termination, belonging to a more deprived Scottish Index of Multiple Deprivation quintile and engaging in risky sexual behaviour.
- ▶ Women who had a progestogen implant for contraception following their first termination had an increased likelihood of a subsequent termination.
- ▶ Depo-Provera[®] and implants offer protection from repeat termination for up to 2 years after the initial termination, but thereafter become risk factors.

Conclusions Teenage pregnancy, social deprivation, two or more previous livebirths or miscarriages at the time of the initial termination were identified as risk factors for repeat terminations. Post-termination contraception with implants and Depo-Provera[®] were associated with repeat termination 2–5 years after the first termination.

INTRODUCTION

Terminations of pregnancy have been noted to be declining in Scotland from 13.1 per 1000 women in 2008 to 11 per 1000 women in 2014. However, around one-third of these women in 2012 had had one or more previous terminations and the rate of repeat terminations has remained static at 3.6 per 1000 women of reproductive age in 2008 to 3.5 in 2014.¹

Violence and contraception

- **childhood sexual violence and low self-esteem** are related to Intimate partner violence (IPV) and ineffective contraception use (Nelson et al, 2017)
- **IPV** associated with unfavourable sexual and reproductive health outcomes (premature birth, neonatal death, **multiple abortions, unintended pregnancies, non-use of contraception**) (WHO, 2011; Sarkar 2008)
- **witnessing family violence by adolescents seems to have the same effect on sexual risk-taking as direct violence** (van Rosmalen-Nooijens et al, 2017; Haldre et al, 2009)
- IPV raises the likelihood that women choose sterilisation (McCloskey et al, 2017)

CONCLUSIONS

- teenage fertility and abortion rates have decreased substantially and become a rather rare event in Estonia
- decrease in parallel with improved access to contraception, sexuality education and services
- during the study period a little less than one fifth of teenage abortion patients have experienced previous delivery or abortion, around one tenth of teenage parturients are multipara
- the proportion of repeated pregnancies among adolescents has remained the same

- what is the possible lowest teenage abortion/pregnancy rate?
- what is the possible lowest teenage repeated abortion/pregnancy rate?

University of Warwick institutional repository: <http://go.warwick.ac.uk/wrap>

Author(s): Sam Rowlands

Article Title: More than one abortion

Year of publication: 2007

Link to published article:

<http://dx.doi.org/10.1783/147118907781005047>

Key message points

- Categorising women undergoing abortion into groups according to number of previous abortions has little scientific merit
- Women undergoing their first abortion and women undergoing subsequent abortions should be treated no differently
- Future research on abortion should focus more on psychosocial antecedents to unintended pregnancy

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