Sexual behaviour and early coitarche in a national sample of 17 year old Swedish girls

Karin Edgardh

Objective: To evaluate sexual behaviour in 17 year old girls, using data from a national survey on adolescent sexuality.

Method: The study was based on two samples of 17 year olds, comprising 2% of the population born in 1973 and carried out in 1990. A school sample and a sample of school non-attenders were recruited in a two step procedure. Data were collected by anonymous self administered questionnaires. 2583 questionnaires were distributed. Response rates from students was 92%, for school non-attenders 44%. 1121 female students and 118 female school dropouts responded.

Results: 64% of the student girls had experienced their first intercourse; 16% were “early starters” with coitarche before age 15. STD and pregnancy were reported by 15% of early starters and pregnancy by 14%, p<0.001 and 0.002 respectively when compared with later starters. The number of coital partners, experience of first date intercourse, and of oral and anal sex was higher in the early starters, p<0.001. Early starters reported menarche at age 11 or earlier more often than the later starters (OR 2.30, 95% CI 1.48–3.56), as well as a perceived social age exceeding the chronological by 2 years (OR 1.94, 95% CI 1.34–2.80). Sexual abuse was reported by 20% of the early and 11% of the later starters, p=0.002. Among school non-attenders no significant differences were found with regard to age for coitarche. A majority of 83% of the girls had experienced voluntary intercourse, and 49% were early starters. Five girls were mothers. STD was reported by 19% and induced abortion by 14%. Sexual abuse was alleged by 28%.

Conclusion: Coitarche before age 15 is related to early menarche and high perceived social age. High number of partners and first date intercourse make early starters at increased risk for STD and unintended pregnancy. Sexual abuse is alleged more often by early starters.

(Sex Transm Inf 2000;76:98–102)

Keywords: adolescent sexuality; sex; coitarche; sexual behaviour; sexual abuse

Introduction

In Sweden, there is a liberal attitude towards sexual relations among adolescents. Education on sexuality and personal relationships has been part of the national school curriculum since 1956. Youth polyclinics tailored to the needs of adolescents form a network over the country, in order to support young people in developing responsible sexual behaviour, and to minimise reproductive health problems. Contraceptive counselling is free of charge and available without parental consent. Easily available oral contraceptives have contributed to a decrease in teenage abortions, from 29.8 per 1000 in 1975 to 17.6 per 1000 in 1998.1 Since the early 1980s, screening, free treatment, and partner notification for genital chlamydial infection have contributed to the decrease from 40 000 estimated cases in 1987 to 15 000 reported cases in 1998.2 As fewer than 400 cases of gonorrhoea are reported annually, the total number of bacterial STDs has decreased, as has the rate of pelvic inflammatory disease.3 Consequently, the risk for impaired fertility through tubal damage has decreased. Viral STDs dominate the panorama today. Seroprevalence of HPV type 16 among 3512 pregnant women in Stockholm in 1989 was 21%, and seroprevalence of HSV-2 was 33%.4 5 The necessity of condom use became of the early and 11% of the later starters, p=0.002. Among school non-attenders no significant differences were found with regard to age for coitarche. A majority of 83% of the girls had experienced voluntary intercourse, and 49% were early starters. Five girls were mothers. STD was reported by 19% and induced abortion by 14%. Sexual abuse was alleged by 28%.

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Material and methods

SAMPLING PROCEDURES

The study was performed in 1990 and teenagers born in 1973 participated. The number of girls born in 1973 and living in Sweden in 1990 was 54 908. The majority attended upper secondary school, while 10% were school non-attenders, registered at youth centres. The aim was to include 2% of the age group in the survey. Two samples were recruited through a two step procedure. The student sample consisted of 17 year olds from 93 upper secondary schools. School dropouts were recruited from 29 youth centres. The sampling procedure has been presented in detail elsewhere.6 7 Female students on vocational and shorter study lines were overrepresented, as they were assumed to be at higher risk for reproductive health problems.
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Comparisons made between girls with coitarche before and after age 15, virgins excluded.

Table 1 Background factors, health hazards, and problematic experiences in 17 year old student girls by experience of vaginal intercourse

<table>
<thead>
<tr>
<th>Background:</th>
<th>Coitarche &lt;15 years</th>
<th>Coitarche &gt;15 years</th>
<th>Virgins (n=403)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lives with both natural parents</td>
<td>0.333</td>
<td>100/178 (56.2)</td>
<td>323/534 (60.5)</td>
</tr>
<tr>
<td>Immigrant background</td>
<td>0.408</td>
<td>23/173 (13.3)</td>
<td>57/528 (10.8)</td>
</tr>
<tr>
<td>Urban residence</td>
<td>0.409</td>
<td>32/176 (18.2)</td>
<td>82/528 (15.5)</td>
</tr>
<tr>
<td>&quot;Theoretical study line&quot;</td>
<td>&lt;0.001</td>
<td>25/177 (14.1)</td>
<td>152/530 (28.7)</td>
</tr>
<tr>
<td>&quot;Menarche &lt;11 years, or 11 years&quot;</td>
<td>&lt;0.001</td>
<td>44/173 (25.5)</td>
<td>64/525 (12.2)</td>
</tr>
<tr>
<td>Perceived social age &gt;2 years older</td>
<td>&lt;0.001</td>
<td>73/178 (41.0)</td>
<td>133/527 (25.5)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health hazards:</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily smoker</td>
<td>&lt;0.001</td>
<td>77/175 (44.0)</td>
<td>121/528 (22.9)</td>
</tr>
<tr>
<td>Alcohol, drunk often or sometimes</td>
<td>0.235</td>
<td>122/176 (69.3)</td>
<td>339/528 (64.2)</td>
</tr>
<tr>
<td>Tried illicit drugs</td>
<td>0.003</td>
<td>23/178 (12.9)</td>
<td>31/528 (5.9)</td>
</tr>
</tbody>
</table>

Problems:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual abuse</td>
<td>0.002</td>
<td>36/178 (20.2)</td>
<td>58/534 (10.9)</td>
</tr>
<tr>
<td>Frequent suicidal thoughts</td>
<td>0.128</td>
<td>21/178 (11.8)</td>
<td>42/531 (7.9)</td>
</tr>
<tr>
<td>Self inflicted injuries</td>
<td>0.002</td>
<td>38/178 (21.3)</td>
<td>62/530 (11.7)</td>
</tr>
<tr>
<td>Eating disorders</td>
<td>0.732</td>
<td>9/173 (5.2)</td>
<td>23/508 (4.5)</td>
</tr>
</tbody>
</table>

*p Values* Comparisons made between girls with coitarche before and after age 15, virgins excluded.

The investigation was approved by the ethics committee at the Karolinska Institute in Stockholm. Informed consent was guaranteed through the administering local contact people. Participation was anonymous, and data were handled totally unidentified. The issue of parental consent for participation in the study was discussed with the board of the parent and teacher association, and parental consent for each respondent was not regarded as an ethical prerequisite for carrying out the investigation.

The impact of the survey on respondents’ attitudes and feelings was considered. A questionnaire addressing sexual issues may communicate "metamessages" that sexual activity among young people is part of, or is in itself, a "problem behaviour." On the other hand, respondents may take offence if the questionnaire is worded in such a way that specific sexual experiences seem to be expected in an age group where the amount of sexual experience may vary widely. Efforts were also made to avoid judgmental messages on sexual orientation.

The survey was carried out during school hours, although the classroom situation was avoided. Each respondent put her questionnaire into an envelope and sealed it. Identifiers were handled totally unidentified. The issue of participation was anonymous, and data were collected.

ETHICAL CONSIDERATIONS

The statistical evaluation was carried out in cooperation with statistical expertise using the SPSS/PC version 9.0. The Χ² statistic was used to compare differences in distributions between groups. Multivariate analysis was carried out with logistic regression.

RESULTS

RESPONSE RATES

In all, 2583 questionnaires were distributed to 17 year old boys and girls; 2108 to students and 475 to school non-attenders. A total of 1943 questionnaires from students were answered, response rate for students 92%; 210 school dropouts responded, response rate 44%. Among the students, 1121 girls responded; 337 on theoretical lines and 784 on vocational lines. Among responding school non-attenders 118 were girls. Owing to differences in response rate, data from the two different study groups are treated separately.

Response rates vary slightly between different questions, but topics of sexual experiences did not suffer from low response rates—for example, 98% of the students answered a question of masturbation and 99% a question on consensual intercourse.

SCHOOL ATTENDERS

Mean age for menarche was 12.8 years, median age 13, range 8–17 years.

To have been in love and to have had a steady partner were experiences most of the girls had in common; 98% had experienced falling in love at least once, and orientation towards the opposite sex was reported by 97%. The girls on vocational study lines reported an ongoing steady relationship more often than the girls on theoretical study lines, 49% (371/774) compared with 41% (136/332), p=0.012.

Table 1 Background factors, health hazards, and problematic experiences in 17 year old student girls by experience of vaginal intercourse
Table 2 Sexual experiences, risk taking, and outcome in 17 year old student girls with coitarche before and after age 15

<table>
<thead>
<tr>
<th></th>
<th>Coitarche &lt;15 years (n=178)</th>
<th>Coitarche &gt;15 years (n=534)</th>
<th>p Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>First intercourse:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In love</td>
<td>154/174 (88.5)</td>
<td>456/524 (87.0)</td>
<td>0.693</td>
</tr>
<tr>
<td>Steady partner</td>
<td>127/175 (72.6)</td>
<td>408/521 (78.3)</td>
<td>0.122</td>
</tr>
<tr>
<td>Partner &gt;3 years older</td>
<td>47/175 (26.6)</td>
<td>101/521 (19.2)</td>
<td>0.043</td>
</tr>
<tr>
<td>Casual partner</td>
<td>24/175 (13.7)</td>
<td>64/521 (12.3)</td>
<td>0.693</td>
</tr>
<tr>
<td>Single event</td>
<td>115/172 (66.9)</td>
<td>369/492 (74.8)</td>
<td>0.047</td>
</tr>
<tr>
<td>No alcohol</td>
<td>143/178 (80.3)</td>
<td>405/531 (76.3)</td>
<td>0.301</td>
</tr>
<tr>
<td>Wonderful experience</td>
<td>47/178 (26.4)</td>
<td>163/534 (30.5)</td>
<td>0.343</td>
</tr>
<tr>
<td>Contraception</td>
<td>105/176 (59.7)</td>
<td>375/534 (69.4)</td>
<td>0.007</td>
</tr>
<tr>
<td>Condom use</td>
<td>79/178 (44.2)</td>
<td>291/534 (54.5)</td>
<td>0.024</td>
</tr>
<tr>
<td>Lifetime no of partners:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;twice</td>
<td>46/176 (26.6)</td>
<td>141/521 (26.9)</td>
<td>0.819</td>
</tr>
<tr>
<td>Sex abroad</td>
<td>36/175 (20.6)</td>
<td>71/521 (13.5)</td>
<td>0.047</td>
</tr>
<tr>
<td>Contraception at most recent intercourse</td>
<td>139/171 (80.1)</td>
<td>412/506 (81.4)</td>
<td>0.968</td>
</tr>
<tr>
<td>Oral contraception</td>
<td>83/178 (46.6)</td>
<td>211/534 (39.5)</td>
<td>0.114</td>
</tr>
<tr>
<td>Condoms</td>
<td>40/178 (22.5)</td>
<td>156/534 (29.2)</td>
<td>0.099</td>
</tr>
<tr>
<td>Alcohol regularly when sex</td>
<td>16/178 (9.0)</td>
<td>39/531 (7.3)</td>
<td>0.517</td>
</tr>
<tr>
<td>Oral sex</td>
<td>167/178 (93.8)</td>
<td>438/528 (83.0)</td>
<td>0.001</td>
</tr>
<tr>
<td>receiving/giving</td>
<td>152/178 (85.4)</td>
<td>342/528 (65.1)</td>
<td>0.001</td>
</tr>
<tr>
<td>Anal sex</td>
<td>34/178 (19.1)</td>
<td>43/525 (8.2)</td>
<td>0.001</td>
</tr>
<tr>
<td>STD</td>
<td>27/178 (15.2)</td>
<td>29/534 (5.4)</td>
<td>0.001</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>24/176 (13.7)</td>
<td>31/518 (6.0)</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Masturbation, petting, oral sex, vaginal, and anal intercourse were investigated. The majority of the girls had experience of masturbation, 64% (699/1100), as well as of being petted, reported by 76% (842/1114), and petting, reported by 71% (786/1107) of the girls. Experience of intercourse was reported by 64% (712/1115) of the girls—68% of those in vocational training and 54% of those in theoretical training (OR 1.79, 95% CI 1.45–2.22). Living with both biological parents was a factor postponing coitarche (OR 0.51, 95% CI 0.34–0.76). The school dropout girls, it was reported by 11% of the girls—71% of the those in school non-attended girls—had experienced intercourse, 49% (446/248) of later starters, p=0.080. Oral sex had been experienced before coitarche by 21% (36/167) of early and 28% (125/449) of later starters, p=0.082.

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School non-attenders

As the response rate from the youth centre sample was low, 44%, the results should be interpreted with caution. Mean and median age for menarche was 12 years, range 9–17 years. A perceived social age more than 2 years above the chronological was reported by 41% (47/115). The majority of the girls, 83% (98/118), had experienced intercourse, 49% (47/97) before age 15, and as no significant differences were found with regard to early and later starters, most results are presented for the whole group of coitally experienced girls. STD was reported by 19% (19/98), and 14% (14/98) had experienced an induced abortion. Five of the girls were mothers. The number of coital partners was five or more for 43% (40/93), and first date intercourse had occurred twice or more for 20% (18/98).

Contraception was used at first intercourse by 57% (54/95), and at most recent intercourse by 69% (65/94). Daily smoking was common, 77% in early starters and 60% in later starters, p=0.087, and experience of illicit drugs was reported by 17% (8/47) and 12% (6/50) respectively, p=0.569. Alcohol before first intercourse was more common than for student girls; but 66% (78/118) were sober the first time. A regular combination of sex and alcohol was reported by 17% (20/118). The consumption of alcohol was more frequent than for student girls, 67% (79/118) reported binge drinking sometimes or often.

The social background was less stable than for student girls (data not presented), and whereas sexual abuse was alleged by 28% of the school dropout girls, it was reported by 11% of the female students.

Discussion

Swedish girls aged 17 years have a considerable amount of voluntary sexual experience. Petting and oral sex is common, and may be experienced before intercourse. The term “sexual debut” meaning the first vaginal inter-
course is thus better replaced by expressions for the onset of specific sexual activities.

Early menarche was found to be an independent background factor for early coitarche in Sweden, in accordance with a report from the United States on puberty and sexuality in girls and confirming results from a study in a medium sized Swedish town. A recent theory suggests that environmental stress—that is, family stressors such as divorce and interparental conflict, may trigger early menarche. Early puberty and high perceived social age also belong to the background factors for general risk taking behaviour in adolescent girls.

Among background factors postponing coitarche were living together with both natural parents and higher socioeconomic status, reflected in the choice of theoretical study line in upper secondary school. Girls in vocational programmes in school, indicating a lower socioeconomic status, had earlier experiences of sex and also of reproductive health problems. These findings have been presented in more detail in a baseline article of the results of this survey. The relation between early coitarche and lower SES is in accordance with a recent overview of adolescent sexuality in the United States.

In the Nordic countries and in Germany, girls experience intercourse at an earlier age than boys in younger age groups, while in the United Kingdom and the southern parts of Europe, and in the United States, the opposite seems to be the rule and boys tend to start earlier. In this survey, the earliest starters comprised girls and boys to the same extent, girls becoming the sexually more experienced sex after age 15.

Early age at first coitus is reported to be a marker for risky sexual behaviour and STD in women, according to a questionnaire study of 4342 American single women, attending a planned parenthood clinic. The increased risk associated with early coitarche is also shown to continue after adolescence in a recent study on high risk sexual behaviour in 8450 unmarried young American women, multivariate analysis showed early age at first intercourse to be a predictor of having multiple recent partners. Early coitarche was the “earliest” variable that could be clearly linked to STD and other sexually transmitted conditions, such as cervical dysplasia. The same findings are described in a recent Swedish survey of sexual behaviour in young women. But, to complete the picture, an early start to sexual life is also associated with sexual pleasure, and enjoyment of intercourse.

High risk sexual behaviour can be made safer through consistent use of condoms. High quality condoms are easily available in Sweden, and are promoted by “trendy” advertising. But our respondents had more often used oral contraception at the most recent intercourse than condoms, a finding in accordance with results from Norway. Those who had had many partners did not use condoms more than those who had only had one or a few partners. This preference for the pill may make teenagers less inclined to practise STD protective behaviour.

The number of partners, as well as “advanced” sexual behaviour, increases the risk for STDs. Experience of oral sex was reported more often by early starters, and encounters involving oral sex may contribute to increased risk of genital HSV type 1 infections. Also intercourse with a partner met on a trip abroad belongs to the risks taken more often by early than later starters, and may increase the risk for gonorrhea and HIV.

The results presented here concerning school dropouts should be interpreted with caution because of the the small sample size and the low prevalence, and because of the lack of information on non-responders. But what can be assumed is that non-responders do not constitute a silent, happy group. Girls in in-patient psychiatric care may belong here, as well as girls in care because of substance abuse. Female school non-attenders in Sweden constitute 10% of girls in their upper teens, and have a high number of self reported STDs and pregnancies, and are often early starters. Health hazards—that is, smoking, binge drinking, and experimenting with illicit drugs, are more frequent in this group. More school dropout girls, 28%, reported sexual abuse than student girls, 11%. Further investigations and interventions targeting this group should be prioritised.

The early starters in this survey have a risk taking pattern with increased risk for negative consequences in the form of STDs and unintended pregnancy. Risk taking behaviour is part and parcel of adolescence, and experimentation is part of the adolescent way of exploring reality. But a young person in early and mid adolescence has not reached full cognitive development, and has been described as having a feeling of invulnerability. Risk taking behaviours starting at an early age also tend to cover several domains, and may, together with health hazards such as smoking and drug experimentation, join into “clusters” of risky behaviours. The term “problem behaviour” then becomes more adequate than “risk taking.” Low socioeconomic status, unstable family situation, and experiences of neglect and abuse belong to childhood precedents. Deprivation at an early age is described to predispose adolescent girls to seek emotional closeness through sexual activity and even parenthood. Risky sexual behaviour and substance abuse are reported to be linked to previous sexual abuse, as presented here, and as discussed by several authors.

Swedish girls with early coitarche have their early start as one of several risk taking behaviours. Comparisons can be made also with results from comprehensive Swedish surveys of normative developmental adolescent behaviour. The analysis of clusters of problem behaviours, with related background factors, has been described as an instrument for identifying and helping troubled young people. Early coitarche and reproductive health problems in young girls can preferably be analysed in the sample manner. Consistent, comprehensive, and long lasting public health activities have been shown to reduce problem behaviour.
and improve health and health habits during adolescence.\textsuperscript{33}

The investigation was carried out on behalf of the former National Board of Education, further data analysis in part funded by the National Agency for Education. Statistical analysis has been carried out by Bjo R Nilsson, PhD, at the Unit of Cancer Epidemiology, Karolinska Institute, Stockholm, Sweden.


26 Haavio-Mannila E, Kontula O. Correlates of increased sexual satisfaction. Arch Sex Behav 1997;26:399–419.


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