

Attitudes and feelings towards menstruation and womanhood in girls at menarche

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Abstract

Aim: To elucidate early adolescent girls' attitudes, thoughts and feelings towards menstruation and their bodies. **Methods:** 309 12-y-old girls answered questionnaires. One part of the questionnaire dealt with thoughts and feelings towards menstruation. The other part dealt with thoughts and feelings towards menstruation and sex and ability to communicate on aspects of womanhood. **Results:** Postmenarcheal girls were less positive towards menstruation than premenarcheal girls ($p = 1 \times 10^{-6}$). Many girls (43%) did not reaffirm the statement "I like my body" and almost one quarter stated being teased for their appearance. Many of the girls claimed that they had been called "cunt" (38%) or "whore" (46%). If called "cunt" or "whore", 17% stated that they felt alone, 76% felt anger and 50% were offended. Mothers were those with whom girls could most easily "chat" about their period. Sixty-seven per cent received information about menstruation from school nurses.

Conclusion: Wanting to be an adult and liking that their body develops seem to be associated with a more positive feeling towards menstruation. Furthermore, mothers' timing and ability to communicate attitudes towards menstruation and the body are as important as those in a girl's immediate environment.

Key Words: Adolescent, attitude, emotions, menarche, menstruation, puberty

Introduction

Menarche is a unique marker of female maturation representing the transition from childhood to womanhood [1]. Swedish girls reach menarche at an average age of 12.7 y [2,3] and in the United States at 12.8–13.0 y [4]. Apart from the first 2 y of life, there is no time when the body and mind develop as much as early adolescence [5].

Self-esteem

Self-esteem is built up throughout childhood, affected by many factors, primarily by early interplay within the family. Furthermore, self-esteem develops in an intimate interplay with the immediate environment [6]. Self-esteem is linked to body-esteem which, during adolescence, is partly regulated by bodily factors beyond individual control, such as the onset of puberty [5,7]. The body is an ongoing personal project with a lesser or greater possibility for self-influence [8]. The key is to try to control the project through exercise, diet, hair removal, cosmetic surgery,

or make-up, presenting the result as natural, with possibly devastating effects on self-esteem [9].

Attitudes to menarche and menstruation

Girls appear to have incorporated many of the prevailing cultural views of menstruation early in life. Unfortunately, most of these views are negative and non-preparative for womanhood [4,10]. This is important because the experience of menarche is partly dependent on previous expectations [4,11,12].

Although a maturation process, menarche is treated culturally as a "hygienic crisis" [13], and improved hygiene appears to be the modern, rational answer to the physical problems and discomfort accompanying this physiological change [13]. This attitude serves to reinforce beliefs that menstruation is only a sign of uncleanness and an embarrassing nuisance that can not be controlled [4,14]. This might have devastating effects on body-esteem. Unlike our society, where menarche is treated with "hygienic silence" [15], menarche is heralded in other societies

by rituals, for example by the Bemba [16,17] and the Navajos [18].

Sexual harassment

Insults reflect current values in society [19]. They are usually made under emotional stress to provoke and gain advantage [20]. The most devastating way of insulting women is by attacking their sexual morality, and this is often done through sexual harassment [20]. Two common words used for the sexual harassment of women are "whore" and "cunt" [20]. The former is usually considered more serious than the latter [20].

Sources of information and support

Sex education was introduced in Sweden in the mid-20th century, earlier than in any other western country [21]. A law was passed in 1955 making sex education compulsory. In Sweden, girls are taught the human body in natural science courses. Furthermore, school nurses provide information about puberty and menstruation [22]. In general, pupils in Sweden are taught the human body chiefly at the ages of 8, 11 and 14. Subjects include puberty and the reproductive organs. In many areas, school nurses also teach these subjects. A problem is that formal education focuses on functions but not on the emotions and worries concerning these functions. Furthermore, formal education does not take into consideration that girls who mature early are unprepared for menarche. They may also have difficulties in understanding many of these issues [23]. This has been reported as having consequences for their later menstrual experience [24]. Koff found that premenarcheal girls communicate more with friends about menstruation than postmenarcheal girls [11]. When postmenarcheal girls talk with friends about menstruation, they talk mostly about the negative aspects [25].

Aim of this study

The aim of this study was to elucidate early adolescent girls' attitudes towards menstruation, and their thoughts and feelings towards their bodies. Furthermore, the aim was to see whether there are differences in these attitudes and feelings between premenarcheal and postmenarcheal girls.

Methods

Sixth-grade girls from eight schools were invited to participate in the study in late 1999. Most of these girls were approximately 12 y old. The study area consisted of three nearby geographical areas from three municipalities in southwestern Sweden. The municipalities were a mixture of urban, village and

rural populations. In one of the municipalities (Lerum), all schoolgirls were invited, while in the two other municipalities (Härryda and Skara), it was limited to girls from two schools in each area. Verbal and written information on the study was provided at the schools. Participation was voluntary and written consent was obtained from children and parents. Headmasters and schoolteachers were also informed. A questionnaire was filled in individually when at school. The Scientific Ethics Committee, Göteborg University, approved the study.

Questionnaire

Each girl was given a two-part questionnaire to answer confidentially. Part one explored thoughts and feelings toward menstruation using a questionnaire developed by Morse [26] and translated by Lönnroth. It was a valid and reliable instrument using Likert scales to measure adolescent responses to menarche. The Swedish versions of the questionnaires were tested for verification. Part one was in two versions, for pre- and postmenarcheal girls. After instruction, the girls chose either the pre- or postmenarcheal form. Both versions consisted of 58 items. Forty-seven were identical and used in the study. The items were merged into six dimensions and a total score, according to Morse et al. [26].

Part two of the questionnaire explored information sources and issues related to womanhood. Furthermore, respondents were asked whether they had been insulted and what their reactions were if they had. The content validity of these questions was tested in discussion with other researchers. These questions were then tested on a small group prior to this study.

Statistical methods

Student's *t*-test was used when comparing continuous data, such as age, between groups. The Mann-Whitney U-test was used in case of skewed data and for group comparison of ordinal data. Because there is no international consensus on how to present ordinal scales or analyse their differences between groups, we present data with both mean and median. Furthermore, when comparing groups, we use both the parametric Student's *t*-test and the non-parametric Mann-Whitney U-test, although the authors prefer the latter. For group comparison of dichotomous data, χ^2 with Yates correction was used.

In covariance analysis, at least one variable was measured by ordinal scale. Variables measured by ordinal scale were transformed to a rank variable. Thus, Spearman's non-parametric rank correlation was used for covariance analysis. Logistic regression was performed in case the dependent variable in a covariance analysis was dichotomous.

All p -values ≤ 0.01 were considered statistically significant. The program SAS version 8.02 (SAS Institute) was used for Spearman's non-parametric rank correlation and Epi-Info version 3.2.2 – Windows version (CDC, Atlanta) for logistic regression. Epi-Info version 6.04d – DOS version (CDC, Atlanta) was used for other analyses.

Results

Of 403 pupils invited to participate in the study, 58 (14.4%) chose not to participate. Not all were in school when the study took place, so, of the remaining 345 pupils, 309 (90%) participated and answered the questionnaires. Some of these did not answer all questions.

Name lists of the 403 invited girls reveal that 1.2% had Finnish names and 8.4% other non-Swedish names, indicating possible non-Swedish origin. The corresponding figures for the 309 girls answering the questionnaire were 1.6% and 9.4%. The proportion of girls with a possible non-Swedish origin did not differ between the invited girls and those answering the questionnaire ($p=0.82$, χ^2).

Most girls (216/309, 70%) had not reached menarche. The mean age (standard deviation, range) for girls not yet menstruating was 12.4 (0.35, 11.4–13.8) y, and for girls who had had their first period 12.6 (0.39, 11.8–14.3) y. Thus, girls not yet menstruating were slightly younger than girls who had had their first period ($p=0.00003$). In 57 of the 93 girls who experienced menarche, we had reliable information on how long they had menstruations. They had had it for a mean of 0.58 y with SD 0.42 (median 0.5, interquartile range 0.25–0.83). The girls' living accommodations were flat (15.4%), townhouse (20.8%) and house (63.8%). There were no statistically significant differences in living accommodation between pre- and postmenarcheal girls.

Postmenarcheal girls were less positive towards menstruation compared to premenarcheal girls ($p=1 \times 10^{-6}$, Student's t -test and Mann-Whitney U-test, Table I). Many girls (43%) did not affirm the statement "I like my body", and almost one quarter stated being teased for their appearance (Table II). Seventy-nine per cent stated that they were informed about menstruation by their mothers (Table III). Postmenarcheal girls felt they were more often informed by their mothers compared to premenarcheal girls ($p=0.007$, χ^2). The mother was also cited as the person they could most easily "chat" with about their period (Table III). After mothers, female friends are the ones that girls "chat" most often with about menstruation (73%) (Table III). Male friends are not usually the ones girls talk to about menstruation, sex and relations (Table III). Postmenarcheal girls were able to talk about menstruation with male friends

to a greater extent compared to premenarcheal girls ($p=0.001$, χ^2).

Many of the girls claimed that they had been called cunt (38%) or whore (46%). If called cunt or whore, 17% of the girls stated they felt alone, 76% angry and 50% offended. Verbally abused girls talked more with friends than with parents about it ($p=0.0001$, χ^2). However, 12% could not discuss the matter with friends, 24% could not talk to parents and less than 5% had no one to talk to when verbally abused in this way. Girls being called these words of abuse felt lonely less often compared to girls just imagining how they would feel being called these invectives (cunt: $p=0.009$, Mann-Whitney; whore: $p=0.004$, Mann-Whitney).

In covariance analyses with Morse dimensions 1–6 (described in Table I) as the dependent variable and all statements according to Table II, girl's age, having experienced menarche or not, and the possible housing conditions as independent variables (dimension and statements as rank variables, menarche and housing conditions as class variables), the statement "I want to be an adult" is shown to be important. The more a girl agrees with this statement, the higher positive feeling ($p=0.0002$, Spearman) and the greater her openness ($p < 0.004$, Spearman). Another important statement is "I like that my body develops". The more a girl agrees with this statement, the higher positive feeling ($p < 0.0001$, Spearman) and the greater her openness ($p < 0.004$, Spearman). The more they agree to the statement "I have been teased for my appearance", the lower was the score on negative feelings, indicating more negative feelings ($p=0.009$, Spearman). In this analysis, adjusting for covariates, it seems that being pre- or postmenarcheal still remains a variable correlated to the dimension positive feelings ($p < 0.001$, Spearman) and also, slightly, to acceptance of menarche ($p=0.058$, Spearman). These p -values are almost the same as corresponding unadjusted p -values in Table I.

In other covariance analyses with Morse dimensions 1–6 (described in table 1) as the dependent variable and all responses according to Table III, girl's age, having experienced menarche or not, and the possible housing conditions as independent variables (dimension as rank variable, response to items, menarche and housing conditions as class variables), the dimension openness is shown to be highly correlated to several items in Table III. Higher openness is correlated to being told about menstruation by a female friend ($p < 0.0001$, Spearman), being told/informed about menstruation by magazines ($p < 0.0009$, Spearman), being able to talk about menstruation with a female friend ($p < 0.0001$, Spearman), being informed about sex by a TV programme ($p < 0.004$, Spearman), being informed about sex by magazines ($p < 0.01$, Spearman) and being able to

Table I. Comparison of premenarcheal versus postmenarcheal girls' attitudes towards menstruation (part one in questionnaire).

	Number ^a		Mean ^b		Median		<i>p</i> -value ^c	
	Pre ^d	Post ^d	Pre	Post	Pre	Post	<i>t</i> -test	M-W
Positive feelings ^e	186	85	28.3 (7.55)	23.4 (6.83)	28.0	23.0	10 ⁻⁶	10 ⁻⁶
Negative feelings ^f	186	81	38.8 (7.21)	38.8 (9.07)	39.0	38.0	1.0	0.82
Menstrual symptoms ^g	198	87	13.6 (2.28)	13.7 (3.65)	14.0	14.0	0.82	0.73
Openness ^g	200	88	15.5 (3.49)	16.1 (4.13)	15.0	16.0	0.24	0.25
Acceptance of menarche ^h	206	87	12.6 (2.06)	13.1 (2.76)	13.0	13.0	0.062	0.049
Living with menstruation ⁱ	202	89	22.3 (3.29)	22.7 (3.93)	22.0	22.0	0.38	0.42
Total score ^j	143	62	141 (16.6)	136 (21.4)	142	139	0.065	0.17

^aNumber of girls providing complete answers to the first questionnaire.

^bMean score with standard deviation within parentheses.

^c*P*-value for comparison of groups; *t*-test: Student's *t*-test; M-W: Mann-Whitney U-test.

^dPre: premenarcheal girls; post: postmenarcheal girls.

^eTen questions with a maximum score of 50 (high score indicates more positive feelings).

^fThirteen questions with a maximum score of 65 (high score indicates less negative feelings).

^gFive questions with a maximum score of 25 (high score indicates less symptoms or more openness).

^hFour questions with a maximum score of 20 (high score indicates more acceptance).

ⁱSix questions with a maximum score of 30 (high score indicates easier living).

^jForty-seven questions with a maximum score of 235 (high scores are more positive).

talk about sex with a female friend ($p < 0.004$, Spearman). Lower openness was correlated to being informed about sex by no one ($p < 0.003$, Spearman) and being able to talk about relations with no one ($p < 0.01$, Spearman). Being informed about menstruation by a sister is associated with higher acceptance of menarche ($p < 0.01$, Spearman). Being able to talk about menstruation with dad is associated with having less negative feelings (higher scores on the dimension negative feeling) towards menstruation.

To investigate how items in Table II are associated with each other, a covariance analysis was performed with the item "I want to be an adult" as a dependent variable. All other items in Table II and having experienced menarche or not were independent variables (items in Table II as rank variables and menarche as class variable). The only association found was that the more girls like that their body develops, the more they want to be an adult ($p < 0.0001$, Spearman).

When analysing responses to items described in Table III for the 57 postmenarcheal girls in whom we have reliable records on time after menarche, we used a logistic regression model where response to item is a

dependent variable and girl's age and time after menarche are independent variables. Girls who had menarche a longer time were more likely to say yes to the statement that they can talk about relations with a male friend compared to girls having menstruations for a shorter time ($p = 0.005$, logistic regression). Time after menarche did not influence the response for other items in Table III.

Discussion

This study shows that girls seek information about menstruation and sex from a variety of sources, indicating a need for information. The fact that a large proportion did not like their bodies may indicate that their transformation to womanhood will not be optimal.

Methodological aspects

In other studies, older sisters often provided important support [27]. However, we could not confirm this in our study (Table III). One possible reason for this might be that fewer girls in our study actually had a

Table II. Experiences and feelings among 12-y-old girls about their bodies (part two in questionnaire).

	No. of answers	Do not agree	Do not know	Agree
I like my body	303	17.5%	25.7%	56.8%
I like myself	304	9.9%	18.4%	71.7%
I have been teased for my appearance	299	64.9%	12.7%	22.4%
I like that my body develops	305	9.8%	36.4%	53.8%
I want to be an adult	303	21.5%	33.7%	44.9%
I decide over my body	304	8.6%	20.4%	71.1%

Table III. Who told the girls and to whom could they talk ($n = 307$) (part two in questionnaire).

	Was told about... by...		Can talk about... with...		
	Menstruation	Sex	Menstruation	Sex	Relations
Mum	79.1%	34.9%	83.1%	44.6%	63.0%
Dad	4.9%	7.6%	10.1%	7.5%	19.3%
Sister	15.4%	8.6%	22.9%	14.8%	25.2%
Brother	0.7%	2.3%	2.0%	3.0%	8.2%
TV programme	16.0	27.7%	—	—	—
Female friend	43.5%	58.4%	73.0%	73.1%	86.0
Male friend	0.0	8.6%	2.6%	9.2%	18.6%
Teacher	40.9%	32.5%	10.8%	5.6%	5.1%
School nurse	67.1%	36.5%	46.6%	27.2%	20.6%
Magazines	29.6%	33.9%	—	—	—
Other person	6.2%	4.3%	9.1%	6.9%	8.8%
No one	1.6%	9.5%	1.3%	8.2%	2.9%

sister compared to the study by Frank et al. Unfortunately, we did not ask them if they had brothers, sisters or parents still living, and thus we could not compensate for this possible bias.

Since many statistical calculations were performed, $p < 0.05$ might be found purely by chance. Thus, p -values of 0.02–0.05 were ignored and only those ≤ 0.01 were considered statistically significant.

Questionnaires were answered confidentially but not anonymously. One might imagine that some girls of non-Swedish origin would have agreed to answer the questionnaire if knowing that they would be totally anonymous, whereas they would perhaps hesitate to answer if they were to be treated only confidentially. Unfortunately, ethnicity was not asked for in the questionnaire. However, name lists of students invited to participate and students actually answering the questionnaire suggest that this potential methodological error is very small.

This study is a mixture of urban and rural populations from the southwestern part of Sweden. We expect the findings to be representative of girls of Swedish origin living in Sweden and probably also for most girls of Scandinavian origin living in Scandinavia. Some of the findings might be valid outside Scandinavia.

Self- and body-esteem

From our study we may conclude that self-esteem, especially body-esteem, is low (29–44%) (Table II). We saw no major difference in overall self-esteem or physical self-esteem between premenarcheal and postmenarcheal girls. This is in concordance with McGrory's findings [1].

Why do some girls have high self-esteem and others not? During puberty, awareness of the body and its development contribute to the formation of self-esteem [9,28]. Furthermore, development of their bodies will have consequences for how they are

perceived by others. The prevailing western culture prefers girls to be small and feminine, and the responsibility for being so lies wholly on themselves [4,8]. Developing a more rounded, mature body collides with the prevailing culture in their age group [7]. The results in this study show that 12-y-old girls felt ambivalent to their maturing bodies and were insecure. Images in the media of ideal body shapes are not in concordance with the body the girl is developing. Movies usually present female bodies from a male perspective, thus forcing girls to view female bodies from this male perspective [29].

During puberty, girls must frequently find their own way of accepting themselves [7,9]. Fifteen-year-old girls with a positive body attitude have high self-esteem, whereas low self-esteem is linked to unhealthy habits and overweight [30]. However, it is not as simple as just liking or disliking the body [7]. The joy of a healthy body may quickly change to discouragement in front of the mirror. The maturation process is difficult, even if considered natural. It is a long process where self-esteem goes up and down before finally achieving high self-esteem. Female identity is contradictory, both attractive and frightening [7]. These issues are important where low self-esteem might lead to increased risk taking.

Anticipation of womanhood

It is important to ask the question—does a girl have to want to be an adult? The results in this study indicate a strong association between wanting to be an adult and openness in discussion issues around menstruation. Furthermore, openness in this study was associated with being more communicative with others, while girls being informed by no one had less openness. Our assumption is that not wanting to become an adult indicates a risk of potential future problems.

In this study, the majority of the girls were uncertain about becoming adults. The transition

from childhood to womanhood is comparable to the transition to motherhood. Something new, unknown and incomprehensible occurs. Girls in early puberty need to understand what is happening to them and to be able to put it into a meaningful context [31]. Girls need to have influence over their lives and not feel like “victims”. They also need support to verbalize their feelings. They must dare to ask questions such as: “What does it mean to be a woman? What is expected of me?” Women close to the girl are especially important as models for girls with no mother living close to them [32].

Sexual harassment

This study and earlier studies confirm that many girls are exposed to and frustrated by verbal insults with sexual connotations [19,33–35]. It is therefore necessary to find strategies to cope with harassment. It seems that girls unexposed to insults fear harassment more strongly than exposed girls. Thus, fear of harassment is worse than harassment itself. Some girls get gradually used to it, until harassment loses its effect [9]. One important mechanism in the immunization process is probably the transformation of feelings into words and sharing them with others. The present study suggests that a majority found a way of coping with harassment.

School is the most likely place for verbal harassment [35], usually occurring without parental knowledge. International studies of sexual harassment in school show that a “hostile” environment correlates with self-confidence [33,36]. Girls harassed in school are less inclined to study, have lower self-esteem and expect less of their future careers. Adults have a central role in initiating discussion and intervening in the occurrence of verbal harassment with sexual connotations [37]. Teachers’ attitudes toward verbal aggression are important because they contribute to legitimizing or condemning it [33,34,37]. Education, proactive intervention and prevention help to identify, conceptualize and decrease the occurrence of sexual harassment in school [19].

Girls’ attitudes to menarche

A century ago, girls received menarche approximately 2–4 y later in life than girls of today [2–4]. Furthermore, the number of pregnancies was higher in the 19th century compared to the 20th and 21st centuries, so the number of menstruations in life was less than in today’s western society [38]. Thus, maturity has become more involved with physical and sexual development than with reproduction and motherhood. Thus, for some girls, it may be puzzling to receive menarche at an average age of 12.7 y [2,3] when, in western society, they are not supposed to

become mothers until 28 [39,40]. The increasing gap between menarche and motherhood makes menstruation a symbol not of motherhood but of sexuality.

Girls in this study were on average 12.5 y old, and subsequently only 30% had reached menarche. Menarche signals that the body is functioning properly and makes girls feel more grown up [4]. Usually, girls prefer to have menarche at the same time as their peers [12]. Attitudes prior to menarche affect the experience of menarche, menstruation and dysmenorrhoea [10,41]. Those “totally unprepared”, and especially early-developed girls, usually have more negative attitudes to menarche than others [23]. Although this study found no difference in self-esteem between premenarcheal and postmenarcheal girls, the latter seemed to better accept menstruation (Table I). Thus, our results indicate that postmenarcheal girls accept menstruation, which might indicate that they are in some way prepared. However, premenarcheal girls were more positive to menstruation than postmenarcheal girls (Table I) [10]. This indicates that experiencing menarche might worsen their attitude. Thus the question arises as to whether they could be even better prepared.

Negative beliefs about menarche and menstruation exist in many countries and cultures [10,25,42]. Do we adequately appreciate the meaning of menarche? Should we, as in other cultures, introduce an initiation rite for girls receiving menarche [18]? A special education method inspired by experiences from other cultures was developed by Rembeck and Højeberg. This method enhances development of positive attitudes in premenarcheal girls [43].

The role of those influencing the girls

Girls put their trust in many people at the time of menarche, such as mothers, peers, school nurses and teachers (Table III). The mother, however, is the most important person for information and discussion [4,11,42] (Table III). Although school nurses are very important informants, this study indicates their importance decreases slightly after menarche in favour of mothers and female friends. Independence from adults is gradually reinforced by closer relations to peers, thus making peers more important [6,7,44].

Seventeen per cent of girls stated they were not informed by their mothers. Since premenarcheal girls stated that they were informed by their mothers to a lesser extent compared to postmenarcheal girls, it may be concluded that some mothers withheld information until menarche. Other possible explanations might be that not all mothers understand their importance. Mothers may have difficulties with communication about these issues or they may miss the optimal opportunity for such discussions. Perhaps more should actively inform their daughters prior to

menarche. It is, however, important to discuss the content and quality of this information. A reasonable explanation is also that some girls do not live close to their mother [32].

Girls' and women's attitudes towards and behaviour associated with menstruation are developed in a complex interplay of cultural beliefs, socialization factors and actual experience [10,15,41]. The female informant's attitudes toward menstruation and their body-esteem affect the message content delivered to the girl seeking information.

Adult informants and mothers in particular should be both aware of their importance and encouraged to obtain adequate information to assure that positive and realistic expectations are transferred to the girl. Well-informed girls with high self-esteem will provide preparedness in the future when it is time to help their own daughters. Peers within or outside school are important as individuals and as a group [27]. It is important that schools and youth centres realize this and influence group dynamic processes so that the transformation to womanhood may become a positive experience. Achieving this may help to reduce sexually transmitted diseases, teenage pregnancies and increase quality of life.

Conclusion

A large proportion disliking their bodies may indicate that the transformation to womanhood will not be optimal. Wanting to be an adult and liking that their body develops seem to be associated with a more positive feeling towards menstruation. Furthermore, mothers' timing and ability to communicate attitudes towards menstruation and the body are important as well as all people around the girls.

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