

Mexican Adolescents' Experience of Menarche and Attitudes Toward Menstruation: Role of Communication Between Mothers and Daughters

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ABSTRACT

Objectives: First, to explore the kind of information that Mexican mothers give their daughters about menstruation before their menarche, and to study the impact of this communication on how prepared the daughters felt when they experienced their menarche. Second, to investigate the influence of the menarcheal experience on attitudes toward menstruation.

Design: Cross-sectional survey.

Settings: Sample of adolescents attending 3 different public schools.

Participants: 405 Mexican postmenarcheal adolescents, aged 12–15 years.

Intervention: Participants answered a questionnaire that had 3 parts: (a) General data, (b) topics related to menses that participants had discussed with their mothers prior to menarche, and (c) menarcheal experience. They also answered a questionnaire about menstrual attitudes.

Results: Although most of the participants knew what they should do when they experienced their menarche, only 39% stated they had felt prepared to start menstruating. Regarding menstrual attitudes, adolescents scored highest on Negative Feelings and Secrecy rather than on Positive Feelings. Participants who had previously discussed the emotional aspects of menses with their mothers were more likely to claim they had felt prepared to start menstruating when they got their first period (OR = 3.45). The fact that adolescents felt prepared to start menstruating predicted positive attitudes toward menstruation ($\beta = .19$).

Conclusions: Discussing the emotional aspects of menses prior to menarche is crucial to being prepared for menarche, and to holding positive attitudes toward menstruation. Information on biological knowledge and practical aspects of menses needs to be supplemented with emotional issues.

Key Words: Menarche, Menstruation, Attitudes, Mothers–daughters, Adolescents

Introduction

Puberty is a time of many changes. For girls, menarche (the first menstrual period) is probably the most important change and is a landmark of physical maturity and fertility. Although it is only one of various physical changes experienced by girls, it is unique in that it occurs suddenly and without warning.

Prior to menarche, girls tend to receive information about menstruation from a variety of sources including parents, school, friends, and the media. Despite the many sources of information, the education that girls usually receive about menstruation is generally deficient. Indeed, girls often report that the information they receive is insufficient and inadequate in preparing them for menstruation, and that it is focused on negative aspects.^{1–4}

Information about menstruation is usually oriented almost exclusively towards bodily functions and advising girls how to cope with the practical aspects of menses, avoiding the emotional aspects or discussing how to deal with their feelings.^{5–7} Moreover, information about

menstruation includes mixed messages: it is presented as being a natural, normal, and important biological event, but at the same time information is included on the importance of concealing and denying menstruation. Messages congratulate girls on their entry into womanhood while at the same time suggesting that menses should be kept secret.^{1,2,8} Thus, menstruation is seen as a proud but disgraceful and secret event.

Adequacy of preparation prior to menarche has an important impact on girls' initial experience of menarche. That is, girls who have an inadequate preparation are more likely to present negative emotional responses to menarche, while girls who have a more adequate preparation are more likely to report positive menarcheal reactions.^{4,9} Mothers are typically the primary source of information about menstruation. How a mother relates to her daughter concerning the issues of menarche and menstruation may influence the girl's future experiences. If the mothers communicated a positive view of menstruation, then the daughters, for the most part, also presented a positive view. But if the mothers presented a negative view, the daughters were more likely to hold a similar view of menstruation.¹⁰

Emotional reactions to menarche have been studied by several authors around the world. Reports in the last century showed that menarche was associated with a series of contradictory beliefs and feelings, and girls

The authors indicate no conflicts of interest.

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experienced a mixture of positive and negative feelings at the same time, such as: happiness and fear; enthusiasm and anger; excitement and nervousness; anxiety and pleasure; acceptance and rejection; support and loneliness; self-control, and loss of control.^{11–14} Studies during the current century which have been conducted in countries like Pakistan¹⁵ or Taiwan³ show that most women describe their menarche as an adverse experience. Other studies conducted in China⁴ and Mexico¹⁶ show that girls continue presenting ambivalent reactions to menarche, probably because they are exposed to mixed messages which are often contradictory, resulting in more confusion and ambivalence. However, Lee¹⁷ conducted a recent study in the US and concluded that unlike findings from earlier research, women in the US currently report more positive experiences of menarche and less indication of feelings of shame, even though secrecy surrounding menarche is still a feature of many young women's experience of their first period. Lee¹⁸ also found that most mothers of young women are remembered for being personally supportive when their daughters started menstruating and emotionally engaged with them about the experience. Moreover, emotional maternal support at the moment of menarche was associated with positive experiences of menarche. However, the author concluded that although maternal support is related to positive experiences of menarche, it is not a guarantee, as some women with maternal support recalled negative memories of menarche.

Emotional responses to menarche are also influenced by attitudes toward menstruation, which are shaped by the immediate environment and the culture in which a woman grows up. That is, positive reactions to menarche are related to a positive perception of menses, seeing it as a natural event, a healthy body image, and rejection of negative attitudes toward menstruation. On the contrary, negative emotional responses to menarche are related to perceptions of menstruation as a negative event.^{4,9,19} Menarcheal experiences and attitudes toward menstruation are related to menstrual experiences later in life, as well as to other aspects of the adult woman's life such as her sexual decision-making.^{20,21}

Menarcheal experience is shaped by the historical time and sociocultural context in which it occurs, and therefore, is framed by the discourses indicative of that particular time and place.²² In Mexico, the beliefs about menstruation have changed over the last decades. Marván et al conducted a study to compare emotional reactions to menarche in Mexican women of different generations. Youngest women were more likely to present ambivalent reactions to menarche, and reported more confusion than older women.¹⁶

The goals of this study were: (a) To explore the kind of information that Mexican mothers give their daughters about menstruation before their menarche, as well as to explore how prepared the daughters felt when they experienced their first period; (b) To investigate the influence of the menarcheal experience on adolescents' current attitudes toward menstruation. It was hypothesized that those adolescents who felt prepared when they experienced their menarche are more likely to have positive attitudes toward menstruation than those who did not feel prepared.

Material and Methods

Participants

The sample included 405 postmenarcheal adolescents, who were attending 3 different public schools in Mexico City (the capital of Mexico). The adolescents were attending first or second grade of middle school, which is equivalent to 7th and 8th grades in the US. Sample size was selected taking into account the number of female students who attend these grades in public schools in Mexico city (data from the Secretaría de Educación Pública, 2010).²³ The sample size had a confidence level of 95% with a margin of error of 5%.

The criteria for participants' selection was that they had to have lived with their biological mothers around the time they experienced menarche, and they had to have reached their menarche at least 3 months before they completed the survey. Two participants were excluded because they had 4 years post-menarche prior to the survey. The schools were selected because their school boards were receptive to permitting the research project.

Participants ranged in age from 12 to 15 years. They were recruited by the schools' teachers, who asked all female students in these grades who had already experienced their first menstruation if they wanted to be part of a study. Teachers stressed that participation was voluntary and that results would be confidential. None of the students refused to participate in the study.

Table 1 shows the demographic characteristics of the participants.

Measures

Data were collected using 2 surveys:

- Participants answered a survey that had 3 parts: First, they were asked to give some general data like their current age, their menarcheal age, and the source of information from which they received information about menstruation the first time. Then, they were asked if they had discussed menstruation with their mother prior to their first period. Those who answered "yes" were asked to complete a checklist indicating whether or not they had discussed 4 topics related to menses. These topics were hygiene, body function, how women

Table 1
Demographic Characteristics of the Participants (N = 405)

Grade	n	Age		Age of menarche			Time elapsed between menarche and the time of the survey			
		years	n	%	years	n	%	months	n	%
7 th	184	12	123	67	10	29	16	3-11	29	16
		13	46	25	11	98	53	12-23	92	50
		14	15	8	12	50	27	24-35	50	27
					13	7	4	36-48	13	7
8 th	221	13	132	60	10	18	8	3-11	27	12
		14	79	36	11	62	28	12-23	80	36
		15	10	4	12	84	38	24-35	77	35
					13	57	26	36-47	37	17

feel physically during their periods (physical sensations), and emotional aspects of menstruation. This checklist has been used in previous studies.^{16,24}

Finally, participants were asked to answer another checklist with 3 questions about their menarcheal experience: “I knew what was happening,” “I knew what I should do” and “I felt prepared to start menstruating.”

(b) Menstrual attitudes were measured by the post-menarcheal form of the Adolescent Menstrual Attitude Questionnaire (AMAQ), which was developed by Morse, Kieren, and Bottorff²⁵ in Canada and adapted to Mexico by Marván and Molina.²⁶ The Mexican version of post-menarcheal AMAQ is a 5-point Likert scale (from 1-“strongly disagree” to 5-“strongly agree”) composed of 25 items grouped into 3 factors: 1) “Positive Feelings” that includes feelings of well-being and pride when menstruating; 2) “Negative Feelings” that includes feelings of rejection toward menstruation; and 3) “Secrecy” that includes attitudes toward keeping menstruation a secret and feelings of embarrassment. The total scores for each AMAQ scale were divided by the appropriate number of items, in this way, the total possible score for each scale ranged from 1 to 5.

Procedure

The study was approved by the research and ethical board of Impulsa Emotional Orientation.

Before administering the surveys, an appointment was set up with the principals of the schools to explain the objective of the study. Principals obtained permission from the school boards to conduct the study. Upon agreement, a schedule and the conditions under which the researcher could conduct the study were established.

All participants gave their consent prior to their participation. Parental consent was also obtained. Three female researchers went to the schools to survey the students on the scheduled day during September–December 2011. When the researchers arrived at the schools, the students were in a designated classroom in which the survey would take place. Participants were told that they could withdraw at any point if they decided not to complete the survey. They were also told that the information they were going to provide was strictly confidential and anonymous. In fact, they were instructed not to put identifying marks on the survey forms. The fact that there were no wrong or right answers to the questions was emphasized.

One of the researchers explained to the students how they should fill out the surveys, and she read out loud each one of the items of the survey in order to make sure that the adolescents properly understood. Students received aid from the researchers if they needed it. The questionnaires took 30–40 minutes to complete. After a participant completed her survey, the researcher immediately put it inside an envelope that contained other surveys, so the participants could see how all questionnaires were combined.

Data Analyses

The percentages of adolescents who discussed the topics related to menstruation with their mothers prior to menarche were calculated, as well as the percentages of participants who knew what was happening when they experienced their menarche, who knew what they should do, and who felt prepared to start menstruating. Logistic regressions were conducted to test whether the topics discussed with mothers predict the menarcheal experience. Within-subjects ANOVA was conducted to compare the scores of the 3 AMAQ factors. ANOVA was followed by a least significant difference test to ascertain factors' scores differences. Finally, linear regressions were conducted to test whether menarcheal experience predicts attitudes toward menstruation. Data were analyzed using SPSS software, version 15.

Results

When adolescents were asked about the sources of information from which they received information about menstruation the first time, they answered that the main sources were mothers (78%) and that the other sources mentioned were sisters (10%), teachers (6%), friends (4%), and others (2%).

There were 94% of participants who claimed having discussed menstruation with their mothers prior to their first period. The remaining analyses were done by taking into account only these participants.

Most adolescents stated that they had discussed *hygiene* and *body function* (89% and 82% respectively) prior to experiencing their first period, while less than half of participants had discussed *emotional aspects* or *physical sensations* (39% and 45% respectively).

Concerning the participants' menarcheal experience, 80% said they had known what was happening at the moment they got their first period, 65% claimed they had known what they should do, but only 39% acknowledged they had felt prepared to start menstruating. In order to test whether the topics discussed prior to menarche predict the menarcheal experience, we conducted 3 logistic regression analyses with each question about menarcheal experience as a dependent variable (see Table 2). These regression analyses demonstrated that participants who had discussed *body function* prior to menarche were 4.01 times more likely than the rest of participants to answer affirmatively that they had known what was happening when they got their first period. These participants were also 2.78 times more likely to answer affirmatively that they had known what they should do when they got their first period. Finally, those participants who claimed they had discussed *physical sensations* and *emotional aspects* of menses prior to menarche were 0.45 and 3.45 times more likely to claim they had felt prepared to start menstruating respectively.

Regarding menstrual attitudes, there were significant differences when comparing the scores obtained in the 3 AMAQ subscales. The participants showed the highest scores on Negative Feelings ($M = 2.77$, $SD = .73$), followed

Table 2
Logistic Regression for Variables Predicting Menarcheal Experience

Topics discussed:	"I knew what was happening"				"I knew what I should do"				"I felt prepared to start menstruating"			
	β	SE	Odds ratio	Wald statistic	β	SE	Odds ratio	Wald statistic	β	SE	Odds ratio	Wald statistic
Body function	1.39	0.29	4.01	22.32 [†]	1.02	0.28	2.78	13.69 [†]	0.50	0.30	1.65	2.82
Physical sensations	0.43	0.36	1.53	1.39	0.59	0.30	1.80	3.79	-0.80	0.31	0.45	6.67*
Emotional aspects	0.23	0.37	1.26	0.39	0.01	0.31	1.00	0.01	1.24	0.33	3.45	14.43 [†]
Hygiene	0.20	0.40	1.22	0.25	0.45	0.34	1.57	1.73	0.16	0.36	1.17	0.19

* $P < .01$ † $P < .001$

by Secrecy ($M = 2.69$, $SD = .87$), and finally by Positive Feelings ($M = 1.97$, $SD = .76$) ($F(2) = 172.75$, $P < .0001$).

In order to test whether menarcheal experience predicts attitudes toward menstruation, we conducted 3 linear regression analyses with each factor of the AMAQ as a dependent variable. The variance inflation factor (VIF) test indicated that there were no collinearity problems in our data, because all VIF scores were lower than 3. As can be seen in Table 3, the more adolescents knew what was happening, the less secretive and the less negative they were toward menstruation. Furthermore, the more participants felt prepared to start menstruating, the less secretive they were, and finally, the more participants felt prepared to start menstruating, the more positive they were toward menstruation.

Discussion

The present findings indicate that "hygiene" and "body function" were the 2 most common topics discussed, which is consistent with earlier studies.^{24,27} Since the early 1980s, women have stressed that aside from information about physiology and hygiene, they need to be more informed about the concrete experience of menstruating; claiming that abstract information about menses as a biological event is insufficient preparation.²⁸ However, it seems that not much has changed since then. Young women would be better prepared than they currently are if they were told about the emotional aspects of menstruation, which is what adolescent girls are most eager to learn.⁸

Regarding menstrual attitudes, adolescents who participated in this study scored highest on Negative Feelings and Secrecy rather than on Positive Feelings. This result is not surprising because beliefs about menstruation are usually quite negative in almost all cultures.^{29–31} In a study conducted with Mexican adults, they were asked to answer a questionnaire about beliefs and attitudes toward menstruation. Both men and women, as well as young and

middle-aged people, scored highest in the "Annoyance" factor of the questionnaire, which refers to the menses as a bothersome event and includes items that suggest a desire to reject menstruation.³² As mothers have had a fundamental role in educating their daughters about menstruation, they should have more positive attitudes, be emotionally supportive, and well informed on the issue. However, for reasons that include embarrassment, a lack of knowledge, or a poor mother-daughter relationship, mothers have not necessarily been comfortable or competent when they teach their daughters about menstruation, and the information may not be properly provided.² Unfortunately, many women regard the task of informing their daughters about menarche as necessary but difficult to initiate, since menstruation is somewhat confusing to explain and to understand.¹⁰

Beliefs about menstruation are not restricted to instruction by mothers. Exposure to popular and teen media provides imagery depicting menstruation as a hygienic crisis and as a secret event. Media, as well as some educators and mothers, stress the importance of keeping clean, avoiding soiled clothes, and purchasing and handling supplies. They are more likely to advise girls about how to be prepared for and cope with the practical aspects of menstruation, but will not necessarily tell them how to deal with their feelings. Thus, menarche has become in a "hygiene crisis" rather than a maturational event.^{33,34}

Media also support certain beliefs which have resulted in a culture of concealment surrounding menstruation.²⁹ The influence of such messages may play an important role in shaping and maintaining menstrual attitudes, and it may explain, at least in part, the high scores on Secrecy in the current study. Holding an attitude of secrecy regarding menstruation, women learn to hide an important part of their femininity, since menstruation is part of being female. Moreover, if a woman believes that it is important to keep menstruation a secret, then she must be careful so that people do not know that she is having her period, which

Table 3
Linear Regression Analysis for Variables Predicting Attitudes Toward Menstruation

Menarcheal experience:	Attitudes towards menstruation								
	Positive			Negative			Secrecy		
	B	SE B	β	B	SE B	β	B	SE B	β
"I knew what was happening"	0.01	0.11	0.01	-0.25	0.10	-0.14*	-0.35	0.12	-0.16 [†]
"I knew what I should do"	-0.09	0.09	-0.06	-0.12	0.09	-0.08	-0.19	0.10	-0.10
"I felt prepared to start menstruating"	0.29	0.08	0.19 [†]	-0.01	0.08	-0.01	-0.34	0.09	-0.19 [†]

Note: $\Delta R^2 = .179$ for positive feelings ($P < .006$); .188 for negative feelings ($P < .004$); .328 for secrecy ($P < .0001$)

* $P < .05$ † $P < .001$ ‡ $P < .0001$

might affect her daily activities while menstruating. Sometimes, although mothers explicitly depict menstruation as a natural fact of life for a woman, the format of their presentation of this information may inadvertently suggest otherwise to their daughters.⁸ Mothers and health educators should encourage girls to feel more comfortable with their bodies teaching them to view menstruation as a natural event, and dispel shameful views regarding a biological female process.

Another of our findings was that most adolescents claimed they knew what was happening at the moment they got their first period, and they knew what they should do. However, less than half stated that they felt prepared to start menstruating. These findings highlight again that the information girls are receiving is insufficient to prepare them for menarche. Since the 1990s, when Koff and Rierdan⁶ stated that when education focuses only on the biological and hygienic aspects of menstruation, it can result in a disconnection between knowledge and a girl's own body experience, instead of girls relating the biological information they receive about their bodies. Merely talking about these aspects does not enlighten girls about the many variables that affect menstruation; practical and biological knowledge needs to be combined with emotional aspects of menses.

Indeed, we found that those participants who had discussed the emotional aspects of menses prior to menarche were more likely to claim they had felt prepared to start menstruating when they got their first period. Moreover, we also found that the girls who felt prepared to start menstruating were more likely to hold positive attitudes toward menstruation when they became postmenarcheal. That is, discussing the emotional aspects of menses prior to menarche is crucial to being prepared for menarche and to holding positive attitudes toward menstruation. There is a need to transform the discourse of menstruation, including issues of real concern to girls, such as the experiential and emotional aspects of menstruation as lived by women. We think that if this were done, a positive change in adolescents' attitudes towards menses could be achieved.

Positive attitudes toward menstruation can help girls to accept and enjoy womanhood, and to have a healthier life in several aspects. For example, it has been demonstrated that menstrual attitudes are related to sexual attitudes and behaviors. Women who report feeling more comfort about menstruation also report more body comfort and, in turn, more sexual assertiveness, more sexual experience, and less sexual risk.²¹ Furthermore, attitudes toward menstruation are correlated with menstrual cycle-related symptoms. Women with the most unfavorable attitudes toward menstruation tend to report more menstrual cycle-related symptoms, while women who show healthy attitudes toward menstruation and consider menstruation as a natural event are more likely to report well-being and positive experiences during their premenstrual period.^{35,36} Moreover, premenarcheal girls who have negative attitudes toward menstruation tend to expect more negative perimenstrual changes when they become postmenarcheal, and in fact, when these girls are surveyed after they reach their menarche, they report more perimenstrual symptoms than

adolescents who did not expect so many negative perimenstrual changes when they were premenarcheal.³⁷

Finally, there are some issues that must be raised while interpreting these results. First, the data could be affected by errors in memory, since participants answered retrospectively what they were told prior to menarche. However, memories that people tend to recall are those that were the most relevant to them. Another possible bias is that the participants were all urban students. Girls living in rural areas may receive a different education related to some issues like reproductive health and menstruation, and therefore further research with adolescents who have different sociocultural characteristics is needed to generalize the results. Another suggestion for further research is to study the mothers' perspective of the issue in order to compare the results from mothers and daughters.

Another suggestion for further research is to study the mothers' perspective of the issue in order to compare mothers' and daughters' results.

Since age at time of menarche influences the psychological impact of the first period³⁸ and early menarche might have negative psychosocial consequences for girls,^{39,40} further research should also consider the influence of early menarche on the experience of menarche and attitudes toward menstruation. In our sample, 8% of participants reported having had their menarche before age 11. There was a tendency that, compared to the other participants, they had not known what was happening at the moment they got their first period, and that they had not felt prepared to start menstruating. However, further research is needed with bigger samples.

In conclusion, discussing the emotional aspects of menses prior to menarche is crucial to being prepared for menarche, and to holding positive attitudes toward menstruation. Thus, biological knowledge needs to be supplemented with information concerning the emotional aspects of menses. Getting premenarcheal girls involved in discussions of the emotional aspects of menses will help to correct myths they may have, and help them to perceive menses as a healthy and natural event.

Acknowledgments

The authors wish to thank Ivonne Sánchez and Verónica Alcalá who assisted us in the collection of data.

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