

# Survey of opinions of mothers and teenage daughters on sexual behavior and contraception: descriptive study and literature review

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**Background:** The aim of this survey was to examine sexual behavior, use of contraception, and communication regarding these issues between mothers and their teenage daughters.

**Methods:** This descriptive cohort study included 314 pairs of women aged 15–24 years and their mothers, from an urban area in Israel. The participants completed questionnaires about sexual history and contraceptive usage. The main outcome measures were differences in sexual behavior and use of contraception between the two generations.

**Results:** Seventy-six percent of the daughters used effective contraception during their first intercourse versus only 29% of their mothers. Of the daughters, 48% had consulted their mothers regarding sexual relationships and use of contraception before beginning to use contraception. The vast majority of the mothers (96%) acknowledged that it was important to discuss these issues with their teenage daughters, but only 66% of them had actually spoken to their daughters about the subject. Daughters who did not discuss contraceptive matters with their mothers tended to be younger at the time of first sexual intercourse, to use the pill less often and the condom more often, and to have a slightly higher rate of elective abortions.

**Conclusion:** This study contributes to our understanding of mother and daughter attitudes regarding contraception, intergenerational differences in this regard, and the importance of mother-daughter communication.

**Keywords:** contraception, adolescents, sexual behavior, communication

## Introduction

The World Health Organization defines adolescents as individuals between 10 and 19 years of age.<sup>1</sup> The sexual and reproductive health of adolescents remains an important public health concern. Over the last decade, the Centers for Disease Control has reported a stable decrease in the percentage of sexually active adolescents in the United States.<sup>2</sup> At the same time, it has reported an increase in the use of contraception, condoms, and the oral contraceptive pill.<sup>2</sup> Despite that, there is still a high rate of teen pregnancy, ie, 41.5 per 1000 women in the age group 15–19 years.<sup>3</sup> In 2006, approximately 22,000 adolescents and young adults aged 10–24 years in 33 states were living with human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS), and approximately one million adolescents and young women aged 10–24 years in the United States were reported to have chlamydia, gonorrhea, or syphilis.<sup>3</sup>

Communication between parents and adolescents has been shown to decrease risky sexual behavior in the latter. Most of the research has shown that the more parents discuss sex, pregnancy, birth control, and sexually transmitted infections with their adolescents, particularly if they discuss these issues early, the more likely

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their adolescents are to delay their sexual debut and the less likely they are to engage in risky sexual behavior.<sup>4,5</sup> In the present study, we assessed sexual behavior and the use of contraception by adolescent girls from urban areas in Israel, and evaluated the quality of communication between mothers and their daughters regarding sexual issues.

## Materials and methods

A study was performed in a representative national sample of 314 households in Israel. The national sampling was based on the daughter's age. During the second half of August 2008, the study enrolled pairs of women aged 15–24 years and their mothers. The study protocol was approved by the institutional review board at the Chaim Sheba Medical Center, Tel-Hashomer. All study participants completed confidential self-administered questionnaires regarding sexual behavior and the use of contraception.

The surveyor from Geocartography knowledge group visited households selected at random during weekend days, and if an appropriately aged girl and her mother were both present at home, the survey was performed. The purpose of the interview was explained and consent to participate in the survey was obtained. The girl and her mother were given a questionnaire and each completed the form in a different room without being able to discuss the topic. The girls and their mothers were thus blinded to each other's responses. The questions in the survey inquired about sexual history, incidence of unintended pregnancy that ended in elective termination, history of birth control use, and existence of communication between mothers and their daughters regarding those issues. The contraceptive choices included an intrauterine device, the oral contraceptive pill, a hormonal dermal patch, a hormonal vaginal ring, a diaphragm, and condoms.

After completion of the questionnaire, each participant was asked to put the form in a sealed envelope in order to preserve anonymity. The mother's and daughter's forms were linked, but identifying details on the participants such as addresses were kept only for adequate sampling assessment because all questionnaires were analyzed anonymously. Statistical analysis was done by a statistician. The statistical error margin of this sample was  $\pm 5.658\%$  with a statistical significance of 95%.

## Results

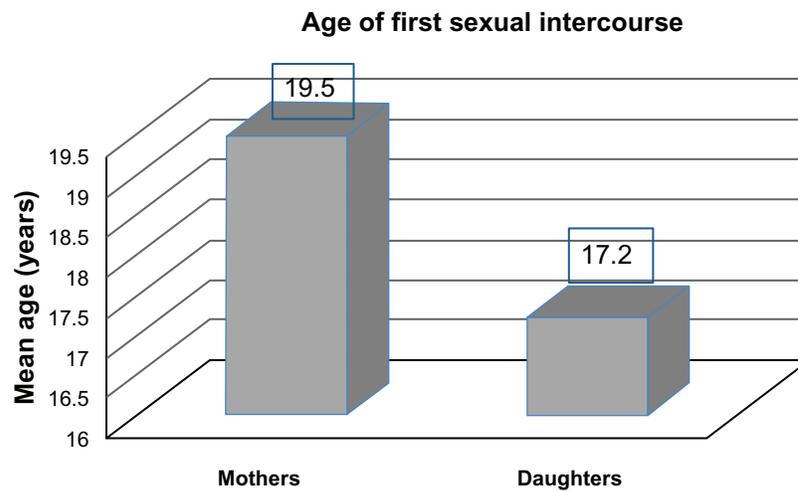
A total of 628 questionnaires were collected from 314 pairs of mothers and their daughters. The results of the survey are presented as answers to the individual questions that were asked in this study.

The mothers' reported mean age at first sexual intercourse was 19.5 years. In comparison, the daughters reported a mean age of 17.2 years at first intercourse (Table 1). Regarding the age distribution at initiation of sexual activity among the daughters, 18% of the girls aged 15–16 years had had sexual intercourse. This percentage increased to 46% for girls aged 18–20 years, and to 80% among girls aged 21–24 years. In their mothers' generation, only 3.2% reported having first sexual intercourse at the age of 15 years.

When asked about the use of contraception, 76% of the daughters reported use of contraception at the time of their first sexual intercourse (Figure 1). Fertility awareness methods and premature withdrawal were used by 5%, whereas 19% did not use any method at all. In comparison, among the mothers, only 29% reported that they had used contraception at the time of their first sexual intercourse, and 17% used fertility awareness methods and premature withdrawal. More than half of the mothers reported that they had initiated regular use of contraception after their wedding (23%) or after their first pregnancy (37%). When the daughters who did not use any type of contraception were asked to explain

**Table 1** Descriptive statistics of the study population, comprising 314 mother–daughter pairs

Demographics	Mothers, % (n)	Daughters, % (n)
<b>Age, years</b>		
15–17		33.8% (106)
18–20		31.8% (100)
21–24		34.4% (108)
25–33		
34–44	32.8% (103)	
45–49	31.8% (100)	
50–54	25.8% (81)	
55–64	9.6% (30)	
<b>Education, years</b>		
≤ 10	23% (72)	21% (66)
11–12	63% (198)	60% (188)
13–16	14% (44)	19% (60)
<b>Marital status</b>		
Married/in a committed relationship	71% (223)	40% (126)
Single/divorced/widowed	29% (91)	60% (188)
Age at first intercourse (years)	19.5	17.2
Contraception use at time of first intercourse	29% (91)	76% (239)
Sexually active currently	81% (254)	53% (166)
Current contraception use	55% (173)	57% (179)
Intrauterine device	47% (81)	–
Oral contraceptive pills	25% (43)	60% (107)
Vaginal ring	11% (19)	1% (2)
Condoms	9% (16)	36% (64)
Dermal patch	8% (14)	3% (6)
Unintended pregnancy	8% (25)	4.5% (14)



**Figure 1** The age of the first sexual intercourse, among mothers and their daughters.

their choice, 42% reported that they trusted their partner to use barrier contraception.

Among the sexually active daughters, the most popular contraception method was found to be the oral contraceptive pill (OCP). Sixty percent of the daughters reported that they used the OCP, 36% used condoms, 11% used both the OCP and condoms, 3% used a dermal patch, and 1% used a vaginal ring. Eighty-one percent of the mothers reported being sexually active, and 55% of the mothers reported using contraception. Of the mothers who used contraception, 47% used an intrauterine device, 25% used the OCP, 11% used a vaginal ring, 9% used condoms, and 8% used a dermal patch (Table 1). Among the adolescent daughters and their mothers, the percentage of elective termination for unintended pregnancies was 4.5% and 8.0%, respectively.

Only two thirds of the mothers (66%) spoke to their daughters regarding sexual behavior and use of contraception, although the vast majority (96%) thought it was very important to do so. Among the mothers, only 33% had consulted their own mothers, ie, the present day grandmothers, on sexual relationships and contraception before using contraception for the first time.

Fifty-three percent of the mothers reported being unaware if their daughters were sexually active or not. In addition, 40% of the mothers were unaware of their daughters' contraceptive methods. Only 48% of the daughters discussed sex and contraception with their mothers before starting to use contraception. Forty-seven percent of the daughters did not discuss these issues, and 5% did not recall. Of the daughters who did not discuss these issues, 35% reported being concerned about their mother's response, 26% did not feel close enough to their mother, 21% reported coming from

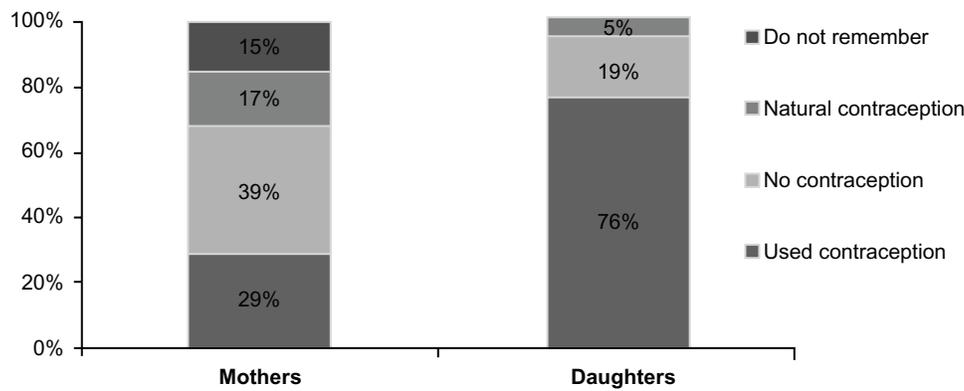
a religious family, 13% reported that their mother was too conservative, and 5% felt ashamed. Daughters who did not discuss contraceptive matters with their mothers tended to be younger, to use the pill less often and the condom more often, and to have a slightly higher rate of elective abortions (Table 2).

The girls who spoke with their mothers on these matters reported a positive response in 52% of cases. In 22% of cases the mother had voiced warnings, 13% had a negative attitude, and another 13% remained neutral. When the mothers were asked about the response they had received in the past from their mothers regarding discussing sexual relationships and contraception, 38% of them reported a negative response.

There was a discrepancy between the mothers and their daughters in regard to their conversations about sexual relationships and contraception. Of the mothers, 66% reported that they discussed these issues with their daughters, whereas only 48% of the daughters reported discussing it with their mothers (Figure 2). Moreover, for 28% of the mothers who claimed

**Table 2** Comparison between two groups of daughters based on communication with their mothers

	Daughters who communicated with mothers (n = 151)	Daughters who did not communicate with mothers (n = 148)
Age (years)	20.7	18.2
Contraception use, % (n)	63% (95)	54.7% (81)
Oral contraceptive pills	41.6% (62)	29.7% (44)
Vaginal ring	1.3% (2)	0
Condoms	19.2% (29)	22.3% (33)
Dermal patch	1.3% (2)	2.7% (4)
Unintended pregnancy/abortion	5.3% (8)	4% (6)



**Figure 2** The use of contraception among mothers and their daughters at the first sexual intercourse.

that they discussed such matters with their daughters, the daughters did not concur, stating that they had never discussed sexual relationships and contraception with their mothers. The converse was also found, but at much lower rate; in 6% of cases, the mother denied discussing sexual and contraceptive issues with their daughters but the daughters reported that they had talked to their mothers on these matters.

Although two thirds of the mothers reported discussing sexual relationships and contraception with their daughters, only 21% went with them to visit an obstetrician/gynecologist physician. Of the daughters, 31% reported preferring a female obstetrician/gynecologist, 23% preferred to go to a male physician, and 35% felt neutral.

## Discussion

In the present study, we examined the sexual behavior of adolescent girls from an urban area in Israel. We also examined their use of contraception and their communication with their mothers, and compared these findings with the experience of their mothers in their teenage years.

The first significant generation difference was found to be in age at first sexual intercourse. Daughters were found to be 2 years younger than their mothers at the time of their sexual intercourse (Figure 1). On the other hand, 75% of Israeli adolescent girls used a reliable method of contraception at the time of first intercourse, compared with only 29% of their mothers (Figure 2).

The most popular contraceptive method was the oral contraceptive pill. When compared with the results from a recent survey of American teenagers, 75.2% of females reported use of contraception at first intercourse, and the majority reported using condoms.<sup>3,6,7</sup> The mean age of first sexual intercourse among American adolescent girls was 17.4 years, which was not significantly different from that reported in our study ( $P = 0.7$ ).

The choice and use of a birth control method at the time of first sexual intercourse is important because it can set a trend for the future. Manlove et al<sup>8</sup> showed that teenagers who had waited a longer time between the start of a relationship and first sexual intercourse with that partner and who discussed contraception before having sex for the first time or used dual contraceptive methods had significantly increased odds of ever or always using contraceptives. Condom use at first intercourse was found to be significantly predictive of future condom use. Teenagers who used condoms at first intercourse were 20 times more likely than other teens to use condoms regularly and 10 times more likely to use them at most recent intercourse. A study by Mueller et al<sup>9</sup> showed that both male and female adolescents who received formal sex education postponed the time of their first sexual intercourse. The males were also more likely to use birth control at the time of first sexual intercourse.<sup>9</sup> A review by Commendador of 35 research studies and 15 journal articles showed that there is an association between parental communication, parenting style, and adolescent sexual activity and contraception use.<sup>10</sup> Maternal communication has been shown to delay sexual intercourse and increase contraceptive use.<sup>10</sup> Interestingly, some studies have shown that the type of relationship the adolescent was in at the time of first intercourse also has a significant influence on the use of contraception, and that the decision-making process surrounding contraceptive use may benefit from treating this as a partner decision and not just as a decision made by one member of the couple.<sup>7,10</sup>

The unintended pregnancy rate in our study population was 4.5%. Another Israeli study in 2003 estimated the incidence of teenage pregnancy to be 32 per 1000 adolescent girls in Israel.<sup>11</sup> In the US, for example, 9% of adolescents aged 15–19 years become pregnant each year, and about half of these pregnancies end in abortions.<sup>2</sup> A Cochrane review of 95,662 adolescents showed that multiple interventions,

combining educational and contraceptive interventions, lowered the rate of unintended pregnancy among adolescents.<sup>13</sup> Evidence on the possible effects of interventions on secondary outcomes (initiation of sexual intercourse, use of birth control methods, abortion, childbirth, sexually transmitted diseases) was not conclusive.

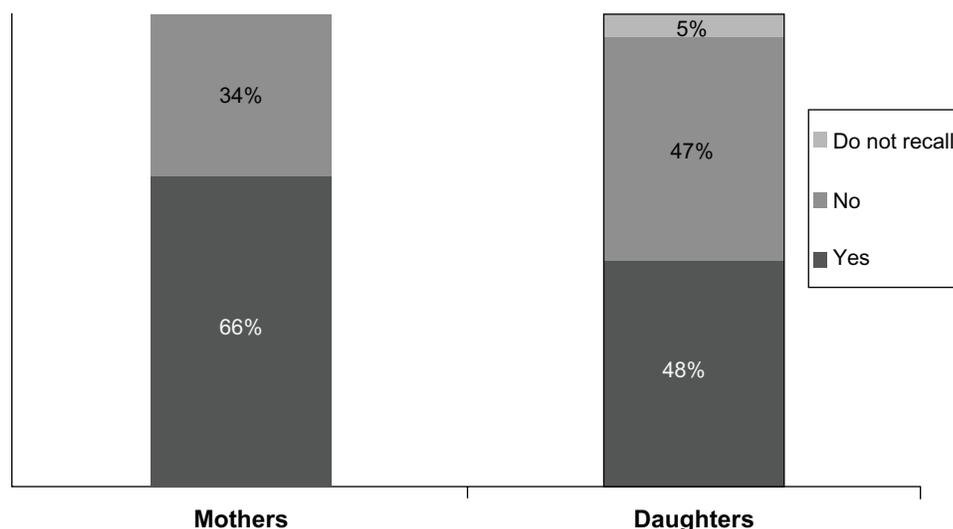
We evaluated communication between daughters and their mothers regarding sexual relationships and contraception. We found that while the majority of the mothers acknowledged the importance of such dialog, they were much less likely to undertake this conversation in reality (Figure 3). The mothers were not fully aware whether their daughters were sexually active, and were also often unaware of the type of contraception method used by their daughters. This lack of communication can be explained in part by the mothers' experiences in the past, dealing with their own mothers, who in turn had a negative and unsupportive attitude towards these issues, as reported in our study.

The role of parents, and especially the mother, has been examined over the last two decades. Five pathways have been identified through which parents are thought to influence the sexual attitudes and behavior of adolescents, ie, parent-child closeness, parental monitoring, parental modeling of sexual behaviors, parental disapproval of adolescent sexual activity, and parent-child communication regarding sexual risk.<sup>14</sup> Early adolescence (13–15 years of age) is characterized by more sex-based discussions with mothers than with friends or fathers.<sup>15</sup> Maternal communication has rich potential as an intervention to impact positive adolescent sexual decision-making and use of contraception.<sup>10</sup> A study by Karofsky et al<sup>16</sup> showed that adolescents who reported feeling connected with

parents and their families were more likely than other teens to delay initiating sexual intercourse. Findings from a survey of 751 black youths showed that adolescent perceptions of maternal disapproval of premarital sex and satisfaction with the mother-child relationship were significantly related to abstinence from adolescent sexual activity and to less frequent sexual intercourse and more consistent use of contraceptives among sexually active youth.<sup>17</sup>

Hutchinson et al<sup>14</sup> examined the influence of mother-daughter communication regarding sexual risk on rates of sexually transmitted infections among urban adolescent females.<sup>14</sup> Although they found that communication did not alter the number of partners and episodes of sexual intercourse, higher baseline communication was associated with fewer episodes of unprotected intercourse.<sup>14</sup> Consistent users of contraception are more likely to report frequent conversations with parents than are teenagers who were not using contraception.

In our study, we found that when mother-daughter communication is lacking, this is probably related to the fact that the mothers themselves did not experience adequate parental communication and guidance as teenagers. Only 33% of the mothers reported having consulted their own mothers on the issues of sexual relationships and contraception. We found that when effective communication between mothers and daughters was present, it was an important factor in shaping the sexual behavior of daughters in the long term. Our findings show a correlation between mother-daughter communication and an increase in the rate of reliable contraception use as well as a decrease in the rate of elective abortion among the teenage daughters.



**Figure 3** Sexual relationships and contraception discussed between mothers and their daughters.

In conclusion, in this descriptive study, we looked at current trends in the sexual behavior of adolescent girls and at the communication with their mothers regarding sexual relationships and use of contraception. Improved mother–daughter interaction may have an important role in advancing interventions aimed towards increasing the quality of mother–daughter communication, and thereby hopefully reducing risky sexual behavior and encouraging proper use of contraception among adolescents.

## Disclosure

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