Intergenerational empowerment and early sexual onset among female adolescents: Evidence from a prevalence study in Ecuador

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The age of puberty onset has decreased substantially over the past decades (Bellis, Downing, and Ashton 2006). Reasons exist to be concerned about this fact as early sexual debut has been linked to several adverse outcomes. Early sexual initiators have been found to be more prone to having multiple sex partners, forcing partners to have sex, having frequent sexual intercourse, and being engaged in teenage pregnancy (O'Donnell, O'Donnell, and Stueve 2001). Studies performed on different populations have also shown an association between early initiation of sexual intercourse and HIV and other STDs risks (e.g. Kaestle et al. 2005; Stöckl et al. 2013). One major cause of the high prevalence of STDs and unwanted pregnancies among young males and females is that those who engage in early sexual activityare much less likely to use contraception (Finer and Philbin 2013). Additionally, even for those who manage to avoid pregnancy at first intercourse despite not using contraception, chances of experiencing early childbearing remain high since those who fail to use contraception at first sex are more likely to continue engaging in risky sexual behavior in the future (St Lawrence and Scott 1996; Magnusson, Masho, and Lapane 2012).

Many studies have tested the relationship between precocious sexual initiation and household structure (e.g. Ellis et al. 2003; Newcomer and Udry 1987) and parental involvement (e.g. Romer et al. 1999; Sieverding et al. 2005; Velez-Pastrana, Gonzadez-Rodriguez, and Borges-Hernandez 2005). However, few studies have explored the intergenerational transmission of behavioral patterns, such as how the timing of sexual debut may be replicated across generations (e.g. Johnson and Tyler 2007). This paper aims to examine the predicting ability of maternal behavioral variables, including the mother's age at first intercourse, and other mechanisms in which the mother's control of her sexual decisions can be passed on to her daughter's own decision making. It is plausible to believe that those mothers with low bargaining power may directly or indirectly transmit their norms and beliefs to their daughters, who may as well then become unable to exercise decision-making over their sexuality. Parkes et al. (2011) found that talking about sex and contraception with children was negatively correlated with delayed sexual initiation, suggesting that parents may be able to shape their children's skills for negotiating sexual situations. The influence intra-household sexual bargaining has on children has yet been explored in experimental research. Therefore, this study opens up an opportunity to discuss more in depth how sexual values may be inherited and how they can relate to the sexual well-being of young women.

METHODS

Data and sample

We used data from the 2018 National Health and Nutrition Survey of Ecuador (Ensanut), which is conducted every five years by the National Statistics Institute of Ecuador. Its goal is to assess the health and nutritional status of adults and children in Ecuador. In 2018, the survey gathered data from 43,311 households, totaling a number of 168,747 subjects. Measures of anthropometric, nutrition, economic status were collected for all the members of the household. Data about the sexual health of women was gathered for all those between 12 and 49 years old. Information about risk factors (e.g. smoking and drinking) was collected for only one random subject (male or female) between 5 and 18.

To perform the analysis, we selected the data of girls who were 16 years old at the time of the interview and their mothers. Because the independent variables we are interested in are the mothers' sexual bargaining

ability and age at first intercourse, we filtered those girls who were currently living with their mothers and their mothers' partner (which in most cases was the father). Additionally, since information regarding sexuality was only gathered for women at age 49 or younger, we only considered those whose mother was under that age threshold. Finally, as data about drug use were not obtained for every subject (due to the random selection), we decided to perform the analysis on two samples: one larger sample that does not include these additional confounders and a smaller one that includes them.

Measures

As in most studies that use secondary data, not all variables necessary to understand the sexual activity of young females were available in Ensanut. Nevertheless, we still were able to add several of the factors that have been previously associated with early sexual debut.

The dependent variable for the analysis was *early sexual activity.* The 16-year-old girls who reported having had sexual intercourse were coded as 1, whereas those who reported being virgin were coded as 0. The 16-year-old cutoff has been used in previous studies to demarcate early onset of sexual activity (e.g. Ellis et al. 2003; Paul et al. 2000).

Basic sociodemographic and economic measures included ethnicity (whether the girl identified herself as an ethnic minority), geographic area (urban or rural), whether the girl was attending school, and household income in US dollars. We used income as a measure of poverty. However, evidence favors the use of consumption as a more effective tool to measure well-being in developing countries (Meyer and Sullivan 2003). Since consumption was not available in the survey, we added other variables, including access to internet and the number of household members. The number of household members was the most predicting factor for impoverishment used in the Poverty Probability Index (Schreiner 2015).

Individual-level measures consisted of knowledge about sexuality and risk behaviors. Sexuality knowledge was estimated through questions about menstruation, pregnancy, and AIDs. Girls were asked whether they knew what was happening to their body when they hay their first period, whether a woman could become pregnant at first intercourse, and whether HIV could spread through handshake. They were also asked whether they had ever learned about sexual relationships, and if so, from whom they had learned about (school, family, and others). Risk factors included whether the girl had ever drunk alcohol or smoked in the past.

Mother-related variables included the mother's sexual bargaining ability, age at first intercourse, and whether she had a teenage birth. Mothers were asked if they could say no to their sexual partners whenever they did not want to have sexual intercourse. For those who were not using any form of contraception but would prefer to use one, they were asked whether they thought their partner would be willing to use it or not. Mothers who were unable to turn down sex or demand their partner to use contraception were classified as low sexual bargaining. We also considered variables such as occupation and education.

RESULTS

After cleaning up the data, the sample contained answers from 828 16-year-old girls and their respective mothers. Among those, 16.4% had ever had sexual intercourse, while 83.6% had not. Table 1 shows the percentage and mean levels of the explanatory variables by each group. Mean differences of the categorical and continuous variables were tested using the chi-square and t-test, respectively.

As seen in Table 1, across the two groups, girls who were sexually active were more likely to belong to an ethnic minority ($p < .001$), live in a rural area ($p < .05$), lack internet access ($p < .001$), and miss school ($p < .001$). As for sexuality knowledge, they tended to incorrectly answer the question about AIDs ($p < .05$) and not know what was happening to their body when they had their first period ($p < .001$). Sexually active girls were more likely to learn about sexuality from family ($p < .05$) and other sources (e.g., internet) ($p < .001$). In contrast, non-sexually active girls were more prone to learning from school ($p < .001$).

Table 1: Percentage and mean levels of explanatory variables by group

Variables	Early sexual activity	No early sexual activity	p value
Ethnic minority	0.30	0.21	0.001 ***
Lives in a rural area	0.48	0.41	0.033 *
Does not have internet	0.75	0.55	0.000 ***
Misses school	0.44	0.05	0.000 ***
Lacks knowledge about period	0.28	0.19	0.000 ***
Lacks knowledge about pregnancy	0.20	0.17	0.273
Lacks knowledge about AIDs	0.18	0.12	0.014 *
Does not know about sexuality	0.09	0.07	0.273
Knows about sexuality from family	0.15	0.10	0.015 *
Knows about sexuality from school	0.68	0.80	0.000 ***
Knows about sexuality from other sources	0.08	0.03	0.000 ***
Has ever drunk alcohol	0.62	0.44	0.000 ***
Has ever smoked	0.09	0.03	0.000 ***
Mother has a job	0.64	0.60	0.282
Mother finished HS	0.44	0.51	0.1 .
Mother had a teenage birth	0.68	0.48	0.000 ***
Mother lacks sexual bargaining	0.15	0.11	0.108
Household income	646.79	630.03	0.944
Number of members in the household	5.64	5.42	0.08 .
Mother's age at first intercourse	16.11	17.64	0.000 ***

Note: p values for comparison of percentagges using chi-square. p values for comparison of means using t-test. Ns = 401–828. . < .1. *p < .05. **p < .01. ***p < .001.

Mother characteristics significantly differed across groups. Mothers of early sexual initiators were less likely to have finished high school ($p < .1$) and more likely to have become a teenage parent ($p < .001$). Mothers of early sexual initiators were also less likely to be sexually empowered, although this difference was not shown to be statistically significant.

As expected, early sexual initiators were more likely to have been reared by a mother who had herself had her first coitus at a very young age. Figure 1 illustrates the cumulative histogram of age at first coitus of the mothers. The figure clearly shows that mothers of early sexual initiators had their first coitus at a younger age than mothers of those who were not sexually active. The mean age of first coitus for each group was 16.11 (SD = 2.48) and 17.76 (SD = 2.79), respectively. The t-test showed that these differences were unlikely to have been due to chance ($p < .001$).

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Table 2: Logistic Regression Results

	Dependent variable:	
	early_sexual_activity	
	(1)	(2)
ruralyes	−0.077	−0.056
	(0.231)	(0.232)
h_income	0.0001	0.0001
	(0.0001)	(0.0001)
h_num_members	0.097*	0.068
	(0.056)	(0.057)
h_internetno	0.481**	0.485**
	(0.241)	(0.244)
minorityyes	0.349	0.356
	(0.254)	(0.257)
attends_schoolno	2.151***	2.164***
	(0.317)	(0.321)
period_knowledgeno	0.257	0.243
	(0.251)	(0.252)
aids_knowledgeno	0.004	0.072
	(0.307)	(0.308)
pregnancy_knowledgeno	0.289	0.321
	(0.259)	(0.260)
sexuality_knowledgefamily	2.394**	2.252**
	(1.081)	(1.097)
sexuality_knowledgeschool	1.841*	1.809*
	(1.050)	(1.065)
sexuality_knowledgeother	2.821**	2.714**
	(1.135)	(1.150)
m_jobyes	0.613***	0.563**
	(0.224)	(0.226)
m_finished_HSyes	0.393*	0.449**
	(0.227)	(0.228)
m_empowermentno	0.633**	0.595**
	(0.295)	(0.298)
m_teenage_birthyes		0.767***
		(0.218)
Constant	−5.525***	−5.802***
	(1.150)	(1.170)
Observations	828	824
Log Likelihood	-323.140	-316.344

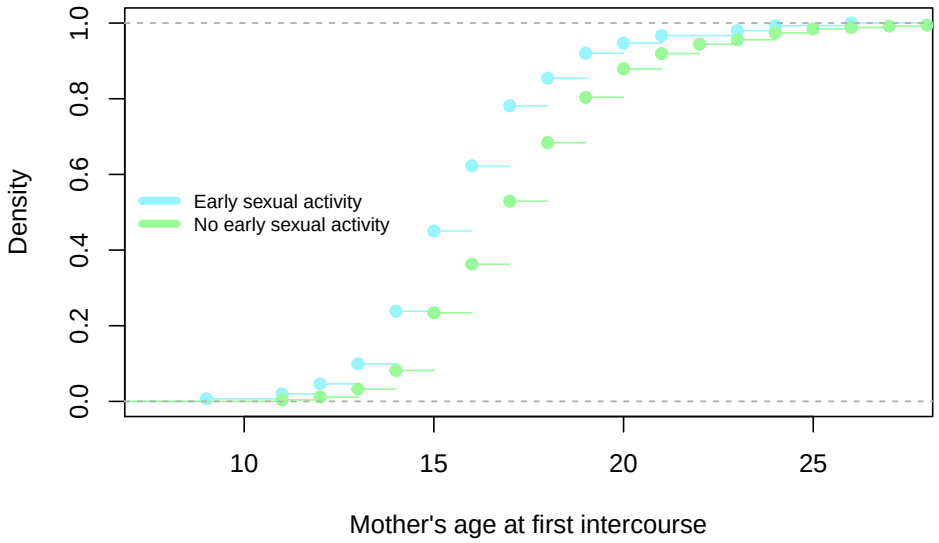

Figure 1: Cumulative histogram of age at first intercourse of mothers by group

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