Exploring the Socioeconomic Dimension of Adolescent Reproductive Health: A Multicountry Analysis

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CONTEXT: *The design and evaluation of adolescent health programs rarely account for socioeconomic differences in reproductive health needs and service utilization among young women in developing countries.*

METHODS: *Nationally representative Demographic and Health Survey data for 12 developing countries were used to assess socioeconomic differentials in reproductive health outcomes and service utilization among young women. For each country, chi-square tests were performed to identify statistically significant differences between the poorest and the richest quintiles, which were constructed using a household wealth index.*

RESULTS: *In most countries, young women from the poorest households were more likely than those from the richest households to be married by age 18 and to have had at least one child by that age; they were less likely to report a mistimed birth, to be practicing contraception, to use maternal health services and to know how to prevent sexual transmission of HIV. Economic autonomy, school enrollment and regular exposure to mass media were less common among poor than among rich adolescents.*

CONCLUSIONS: *Poor adolescents may be overlooked by current service delivery modes that rely solely on mass media, clinics or schools. Alternative strategies, such as community-based outreach programs, must be implemented to serve the needs of poor young women.*

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About 1.7 billion people—more than one-fourth of the world's population—are between the ages of 10 and 24, 86% of whom live in developing countries.[1] The young age structure of the developing world is expected to lead to even higher proportions of 10–24-year-olds in the near future, as bigger and bigger cohorts enter adolescence. The sexual and reproductive health behavior of this age-group will critically affect global population growth patterns.

In addition, young people have special sexual and reproductive health needs because of their relatively high risk of being exposed to inaccurate or incomplete information, acquiring HIV and other sexually transmitted infections (STIs), and experiencing unintended pregnancies and maternal complications. Previous studies have documented the marginalization of young people and the barriers they face when they need to obtain information and services.[2] In the last decade, health programs for youth have been receiving more attention because of growing awareness of young people's demographic importance and their special health needs.

Existing literature and programs on young people's health have tended to treat youths as a homogenous group; little effort has been made to explore differences in the reproductive health contexts and needs of young people from various demographic backgrounds—particularly with respect to socioeconomic status. Some studies have pointed to important gender differentials and advocated greater sensitivity to gender in health programs for youth.[3] Although many studies have included some indicator of social stratification, such as education, urban or rural residence, ethnic background or family structure, the majority included these characteristics as control variables rather than as characteristics of primary interest.

Moreover, few health programs for young people target a specific socioeconomic group, and evaluations of the majority of these programs do not distinguish between rich and poor youth in determining the effectiveness of the intervention. For example, a review of several adolescent health programs by the Johns Hopkins University Center for Communications Programs showed that monitoring and evaluation studies were rarely disaggregated by socioeconomic subpopulations.[4] Differences among socioeconomic groups in the accessibility of service delivery modes commonly used by health programs for young people (e.g., mass media, school-based programs, clinics, hotlines, peer education, social marketing and community-based approaches) also need to be explored.

This study uses nationally representative survey data from 12 countries in three major regions of the developing world (Asia, Sub-Saharan Africa and Latin America) to assess the magnitude of socioeconomic inequalities in reproductive health outcomes and service utilization among young women. The programmatic implications of observed disparities in young people's reproductive health contexts and access to various modes of service delivery are also discussed.

METHODS

Data

The data are drawn from the most current Demographic and Health Surveys (DHS) for Bangladesh, India (represented by the state of Rajasthan), Nepal and Turkey in Asia; Chad, Guinea, Kenya, Niger, Nigeria and Tanzania in Sub-Saharan Africa; and Bolivia and Nicaragua in Latin America. Survey years range from 1996 to 2000 (Table 1).

The survey instruments—a household questionnaire and a questionnaire for women of reproductive age—were generally comparable across countries. The women's questionnaire typically asked respondents about their demographic characteristics; reproductive behavior and intentions; contraceptive behavior; and childbearing history, including information on their use of antenatal and delivery care for all births in the 3–5 years preceding the survey. The Latin American and Sub-Saharan African surveys included both married and unmarried respondents, but those in Asian countries surveyed only ever-married women.

The samples analyzed in this study were restricted to 15–19-year-olds for the majority of indicators;* however, measures of age at marriage and age at first birth were based on data from 20–24-year-olds. (Sample sizes are shown in Table 1.) The measures used to examine socioeconomic differences in adolescent health outcomes and health service utilization included age at marriage, age at first birth, sexual activity among unmarried youth, current contraceptive use, use of maternal health services, knowledge of one or more ways to prevent sexual transmission of HIV, and control over cash earnings. Current enrollment in school and exposure to mass media were also examined because they have direct implications for service delivery and access to information.

Analysis

Because we lacked data on income or consumption, we used reports of household wealth from the DHS household questionnaire to differentiate between poor and rich households; wealth was measured by ownership of such consumer items as fans, refrigerators and cars, and by such dwelling characteristics as flooring material, drinking water source and toilet facilities. Following the approach used by Filmer and Pritchett,[5] we used principal component analysis to generate a weight or factor score for each household asset; weighted scores for all assets were added to create a household wealth index. In general, types of assets owned were similar from country to country, although differences in local availability led to a 5–10% variation in the types of items included in the index. The weights for any given asset varied across countries to reflect the asset's local availability.[6]

All household members shared the same wealth index value. On the basis of these values, each national sample was divided into five approximately equal groups (quintiles). Women aged 15–19 (or 20–24, for some measures) from each national quintile made up the socioeconomic quintiles for analysis. Therefore, due to differences in fertility rates among rich and poor populations, the number of 15–19-year-old women may be greater in poor quintiles than in rich quintiles.

Given the ease of collecting data on household assets, this approach provides an advantage over other conventional measures of wealth, such as those based on consumption and expenditure, especially in countries where large proportions of the population work in the agricultural and informal sectors. However, this index has methodological limitations: Most notably, wealth quintiles mea-

*Although the World Health Organization defines adolescents as 10–19-year-olds, our definition was limited to 15–19-year-olds by the availability of the data for a number of indicators included in the analysis.

TABLE 1. National economic indicators for 12 countries with Demographic and Health Survey data, year of survey and number of women interviewed, by age, all according to country

Region and country	Purchasing power parity (in US$)†	% of population living on <$1 a day	Survey year	No. of women		
				15–49	15–19	20–24
Asia						
Bangladesh	1,382	36	2000	10,544	1,451	1,910
India (Rajasthan)	1,422	35	1999	6,813	608	1,361
Nepal	1,145	38	1996	8,429	955	1,629
Turkey	5,516	<2	1998	8,576	1,763	1,539
Sub-Saharan Africa						
Chad	1,172	64‡	1996	7,454	1,716	1,391
Guinea	1,270	40‡	1999	6,753	1,339	1,099
Kenya	1,438	23	1998	7,881	1,852	1,542
Niger	765	61	1998	7,577	1,782	1,372
Nigeria	1,270	70	1999	9,810	1,611	1,774
Tanzania	636	11	1999	4,029	933	773
Latin America						
Bolivia	2,617	14	1998	11,187	2,479	1,891
Nicaragua	1,837	82	1998	13,634	3,357	2,443

†Purchasing power parity (PPP) is an indicator used to compare incomes and living standards across countries by converting income in each country from domestic currency to U.S. dollars according to adjusted exchange rates. PPP accounts for cross-country differences in the cost of commodities or cost of living and is more accurate than usual methods of conversion, which are based on official exchange rates or market exchange rates. ‡The percentage of the population living on less than $1 a day was not available for Chad or Guinea; the percentage living below the national poverty line is used instead. *Sources:* **PPP—**Population Reference Bureau (PRB), *World Population Data Sheet,* Washington, DC: PRB, 2002. **Percentage of population living on less than $1 a day—**World Bank, *World Development Indicators, 2003,* Washington, DC: World Bank, 2003.

TABLE 2. Among women aged 20–24, percentage in overall population and in poorest and richest quintiles who were married by age 18, and measures of poor-rich difference, by country

Region and country	Population average	Poorest	Richest	Poor-to-rich ratio	Poor-rich difference
Asia					
Bangladesh	87.2	94.1*	72.3	1.3	21.8
India (Rajasthan)	82.5	88.6*	54.9	1.6	33.7
Nepal	81.3	90.0*	64.1	1.4	25.9
Turkey	33.3	41.5*	18.1	2.3	23.4
Sub-Saharan Africa					
Chad	80.9	82.1	70.6	1.2	11.5
Guinea	72.5	84.8*	46.9	1.8	37.9
Kenya	35.0	52.8*	20.2	2.6	32.6
Niger	82.4	90.0*	54.7	1.7	35.3
Nigeria	46.1	78.5*	22.1	3.6	56.4
Tanzania	50.0	66.0*	31.5	2.1	34.5
Latin America					
Bolivia	30.1	42.2*	14.4	2.9	27.8
Nicaragua	59.1	78.6*	36.2	2.2	42.4

*Difference from richest quintile significant at p<.05.

TABLE 3. In overall population and in poorest and richest quintiles, percentage of women aged 20–24 who had had a birth by age 18 and percentage aged 15–19 whose last birth was unintended, and poor-to-rich ratio, by country

Region and country	Birth by age 18				Unintended birth			
	Population average	Poorest	Richest	Poor-to-rich ratio	Population average	Poorest	Richest	Poor-to-rich ratio
Asia								
Bangladesh	65.0	73.9*	43.7	1.7	28.4	29.4	31.8	0.9
India (Rajasthan)	47.5	53.8*	27.5	2.0	13.2	6.9*	23.8	0.3
Nepal	46.0	56.8*	33.2	1.7	33.7	30.0*	46.2	0.7
Turkey	19.1	27.5*	8.3	3.3	23.4	21.4	25.0	0.9
Sub-Saharan Africa								
Chad	58.6	59.3	47.1	1.3	7.9	2.3*	16.6	0.1
Guinea	58.1	63.4*	37.4	1.7	18.1	12.9*	31.7	0.4
Kenya	33.6	50.8*	20.6	2.5	57.0	42.7*	69.2	0.6
Niger	59.5	72.1*	38.7	1.9	11.5	6.5*	17.6	0.4
Nigeria	34.3	59.1*	14.9	4.0	21.2	12.1*	33.5	0.4
Tanzania	41.0	51.7*	33.5	1.5	24.5	15.6	18.2	0.9
Latin America								
Bolivia	26.1	41.5*	12.3	3.4	47.4	49.7	43.4	1.2
Nicaragua	42.1	63.4*	21.0	3.0	29.2	30.9*	45.4	0.7

*Difference from richest quintile significant at p<.05.

sure only relative inequalities within each country and are not comparable across countries.

All estimates were weighted at the national level and were adjusted for the surveys' stratified cluster sampling design. STATA 8.0 was used to carry out all statistical calculations. In addition, poor-to-rich ratios and absolute differences between the poorest and richest quintiles are presented as measures of socioeconomic status. Pearson chi-square tests were used to assess the statistical significance of the differences between wealth quintiles. The results are presented as simple bivariate tabulations.

RESULTS

Reproductive Health Indicators

• *Early marriage.* Table 2 (page 111) presents the socioeconomic differentials in the proportion of 20–24-year-old women who were married by age 18. In all countries except Chad, a significantly higher percentage of women in the poorest quintile than in the richest quintile were married by this age: Proportions ranged from 42% in Turkey and Bolivia to 94% in Bangladesh among women in the poorest quintile, and from 14% in Bolivia to 72% in Bangladesh among those in the richest. The poor-to-rich ratio in early marriage was more than 2.0 in half of the 12 countries examined. Differences were much narrower in the relatively poor South Asian countries (Bangladesh, India and Nepal) and in the francophone Sub-Saharan African countries (Chad, Guinea and Niger). In these countries, more than 80% of young women in the poorest quintile had gotten married by age 18.

• *Early childbearing.* Table 3 shows the differentials in the proportion of women aged 20–24 who had had at least one child by age 18. Significantly higher proportions of women in the poorest quintile than in the richest quintile had become mothers by this age in all countries except Chad, where the difference was only marginally significant. Among the poorest women, the proportion of 20–24-year-olds who had had a child by age 18 ranged from 28% in Turkey to 74% in Bangladesh; among the richest women, it ranged from 8% in Turkey to 47% in Chad. The poor-to-rich ratio was 3.0 or greater in four countries (Turkey, Nigeria, Bolivia and Nicaragua). The differentials for early motherhood, like those for early marriage, were generally narrowest in Asian and francophone Sub-Saharan African countries, and were higher in relatively well-off countries than in the poorest countries (not shown). Still, poor-to-rich ratios for early childbearing were higher than those for early marriage in all countries except Guinea, Kenya and Tanzania.

• *Unintended births.* Table 3 also shows the proportion of women aged 15–19 who said their last birth was unintended (i.e., mistimed or unwanted). Overall, substantial proportions of adolescents in Bangladesh, Nepal, Kenya, Bolivia and Nicaragua reported that their last birth was unintended (28–57%). In eight of the 12 countries examined, the proportion of adolescents whose last birth was unintended was significantly higher in the richest quintile than in the poorest quintile; no statistically significant differences be-

TABLE 4. Among never-married women aged 15–19, percentage in overall population and in poorest and richest quintiles who were sexually experienced, and measures of poor-rich difference, by country

Region and country	Population average	Poorest	Richest	Poor-to-rich ratio	Poor-rich difference
Sub-Saharan Africa					
Chad	12.2	10.4†	20.2	0.5	–9.8
Guinea	26.4	20.5†	30.7	0.7	–10.2
Kenya	32.4	29.5	34.3	0.9	–4.8
Niger	4.0	3.8	4.2	0.9	–0.4
Nigeria	22.5	25.2†	16.8	1.5	8.4
Tanzania	34.9	26.8†	41.0	0.7	–14.2
Latin America					
Bolivia	8.6	10.9	9.7	1.1	1.2
Nicaragua	3.1	2.6	2.4	1.1	0.2

†Difference from richest quintile significant at p<.10.

tween the poorest and richest socioeconomic quintiles were identified for Bangladesh, Turkey, Tanzania or Bolivia.

• *Premarital sexual experience.* Data on sexual experience among never-married adolescent women were available only for Sub-Saharan African and Latin American countries. Because of the relatively small sample sizes, the cutoff significance level for this indicator was set at p<.10. In Chad, Guinea and Tanzania, never-married adolescents in the richest quintile were significantly more likely than those in the poorest quintile to say that they were sexually experienced (Table 4). Only in Nigeria was the proportion of never-married women reporting sexual experience significantly higher in the poorest quintile than in the richest quintile. No other significant differences in levels of sexual experience were identified among socioeconomic groups.

Health Service Use and Knowledge of HIV/AIDS

• *Use of modern contraceptive methods.* Table 5 presents differentials in the proportion of sexually experienced women aged 15–19 (married and unmarried) who reported using a modern method of contraception at the time of survey. The average prevalence of modern contraceptives was very low (1–15%) except in Bangladesh and Nicaragua, where roughly one-third of young women reported that they used a modern method. Significant differences in prevalence were seen between socioeconomic groups in all the countries examined: Contraceptive use was significantly less common among women in the poorest quintile than among those in the richest, although it was far from universal even among the richest women. The poor-to-rich ratio ranged from 0.1 in Turkey, Chad and Nigeria to 0.7 in Nicaragua. The widest differentials were in the Sub-Saharan African countries, where contraceptive use was concentrated almost entirely among the two wealthiest groups (not shown).

• *Use of maternal health services.* Table 5 also shows the percentage of births to 15–19-year-old women in the 3–5 years preceding the survey that had been attended by a trained medical provider (i.e., a doctor, nurse or midwife). Although the average proportion of births benefiting from skilled delivery care ranged from 11% in Bangladesh to 81% in Turkey, significant differences existed across socioeconomic groups within each country examined. Adolescents in the poorest households were significantly less likely than those in the richest households to use skilled delivery care: The proportion in the poorest quintile who used skilled delivery care ranged from 3% in Bangladesh to 54% in Turkey, whereas the proportion in the richest quintile ranged from 35% in Nepal to 99% in Turkey. Poor-to-rich ratios ranged from 0.1 in Bangladesh, Chad and Niger to 0.8 in Tanzania, and the absolute difference between poor and rich adolescents varied from 16 percentage points in Tanzania to 65 percentage points in Guinea (not shown).

• *Knowledge of HIV prevention.* Figure 1 (page 114) presents differentials in the proportions of women aged 15–19 who, in response to an open-ended question, mentioned at least one of the following ways to avoid contracting HIV: abstaining from sex, using condoms, having only one sexual partner, avoiding sex with prostitutes and avoiding homosexual sex. As was the case for use of modern contraceptives and maternal health services, the poorest young women in all 12 countries were significantly less likely to know about ways to prevent sexual transmission of HIV than were those in the wealthiest households. The poor-to-rich ratio ranged from 0.02 in India to 0.7 in Guinea (not shown).

Economic Autonomy

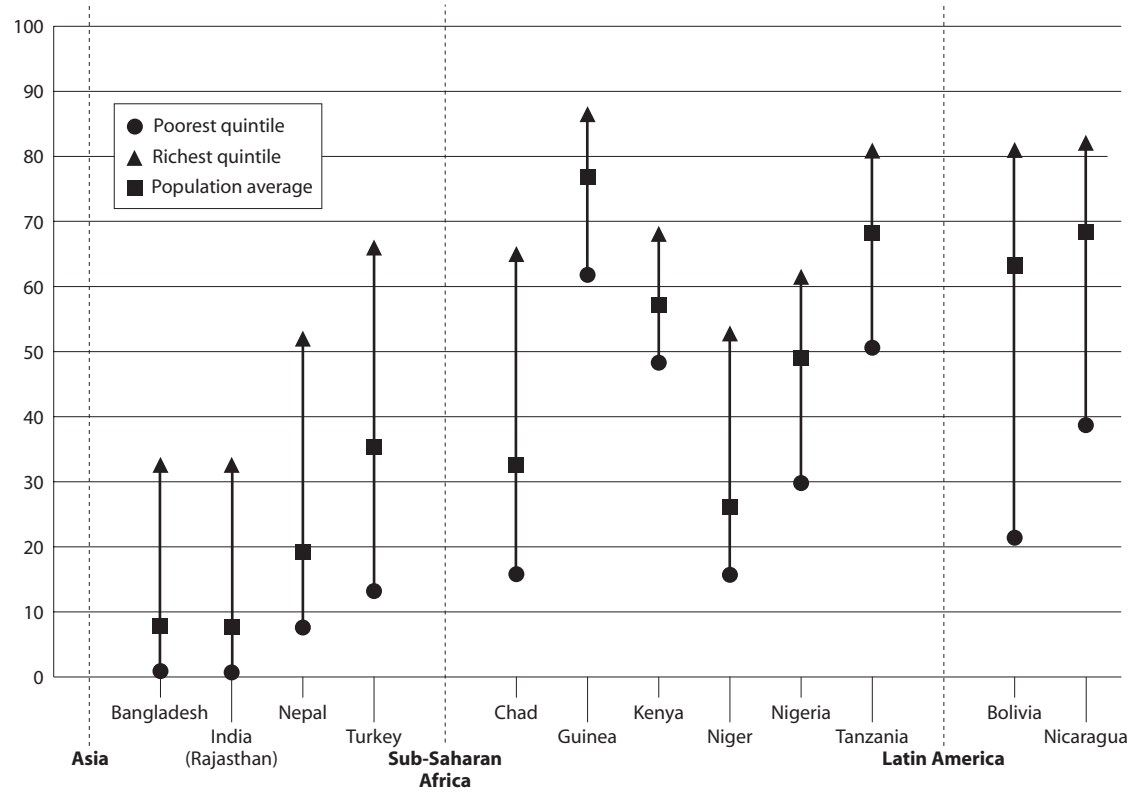
In five of the nine countries examined, 15–19-year-old women in the poorest quintile who worked for cash were significantly more likely than those in the richest quintile to report having no power over how to spend the money, whereas in Nigeria a significantly smaller proportion of adolescents in the poorest quintile than in the richest quintile

TABLE 5. Among women aged 15–19, percentage in overall population and in poorest and richest quintiles who were using a modern contraceptive method and percentage who had had a trained birth attendant at their last delivery, and poor-to-rich ratio, by country

Region and country	Using a method				Used a trained attendant			
	Population average	Poorest	Richest	Poor-to-rich ratio	Population average	Poorest	Richest	Poor-to-rich ratio
Asia								
Bangladesh	30.2	23.0	41.3	0.6	10.8	3.4	36.8	0.1
India (Rajasthan)	2.9	0.7	1.5	0.5	40.7	23.5	83.1	0.3
Nepal	4.3	2.0	9.1	0.2	12.9	5.8	34.6	0.2
Turkey	15.4	5.6	39.1	0.1	80.6	53.9	98.8	0.5
Sub-Saharan Africa								
Chad	0.8	0.3	4.2	0.1	17.9	3.5	59.9	0.1
Guinea	4.9	2.0	11.4	0.2	43.3	20.3	85.5	0.2
Kenya	9.7	4.3	15.1	0.3	45.8	31.4	69.1	0.5
Niger	2.1	1.1	6.8	0.2	17.1	7.3	60.1	0.1
Nigeria	7.6	2.8	20.2	0.1	23.9	9.1	57.8	0.2
Tanzania	11.1	4.4	22.6	0.2	56.1	52.2	67.8	0.8
Latin America								
Bolivia	8.2	3.4	12.9	0.3	65.3	36.0	91.1	0.4
Nicaragua	29.8	19.4	28.7	0.7	68.4	37.3	89.7	0.4

Note: Difference between the poorest and richest quintiles statistically significant at p<.05 for all countries.

FIGURE 1. Among women aged 15–19, poor-rich differentials in knowledge of HIV prevention, by country



Note: Difference between the poorest and richest quintiles statistically significant at p<.05 for all countries.

said that they had no control over their earnings. There were no significant differences between the poorest and richest quintiles in Niger, Tanzania or Bolivia (Table 6). Data were not available for Bangladesh and Guinea, and the sample size for India was too small to provide reliable estimates.

School Enrollment

At the time they were surveyed, only 10% of 15–19-year-old women in Tanzania and India were enrolled in school, whereas almost 64% of young women in Bolivia were in school (Table 7). In all countries except Kenya, adolescents in the poorest quintile were significantly less likely to be in school than those in the richest quintile. The poor-to-rich ratio ranged from 0.1 in India and Chad to1.0 in Kenya.

TABLE 6. Among women aged 15–19 who worked for cash, percentage in overall population and in poorest and richest quintiles who reported no control over their earnings, and measures of poor-rich difference, by country

Region and country	Population	Poorest	Richest	Poor-to-rich ratio	Poor-rich difference
Asia					
Nepal	39.8	64.4*	16.0	4.0	48.4
Turkey	29.7	53.0*	16.7	3.2	36.3
Sub-Saharan Africa					
Chad	19.3	27.3*	2.5	10.9	24.8
Kenya	23.9	31.2*	16.0	2.0	15.2
Niger	22.2	26.2	27.1	1.0	–0.9
Nigeria	20.2	10.3*	25.1	0.4	–14.8
Tanzania	20.4	15.7	14.8	1.1	0.9
Latin America					
Bolivia	9.9	9.7	7.2	1.3	2.5
Nicaragua	7.9	9.5*	3.2	3.0	6.3

*Difference from richest quintile statistically significant at p<.05.

Exposure to Media

Table 7 also shows the proportions of women aged 15–19 who were exposed to one or more types of mass media (TV, radio or newspapers) at least once a week. In all countries except Kenya, Niger, Bolivia and Nicaragua, no more than one-fourth of young women in the poorest quintile were regularly exposed to mass media. In contrast, more than 80% of young women in the richest quintile were regularly exposed to media, except in Nepal, Turkey, Chad and Tanzania. In all the countries examined, adolescents in the poorest quintile were significantly less likely to report regular media exposure than were those in the richest quintile.

DISCUSSION

This exploratory study presents descriptive findings only and therefore does not examine the causes of observed poor-rich differentials within or across countries, which may in part be explained by variations in social norms, disparities in the status of women from different socioeconomic groups, or the affordability of health services. In addition, wealth quintiles in each of the 12 countries included in the study may represent different levels of actual wealth; for exam-

TABLE 7. Among women aged 15–19, percentage in overall population and in poorest and richest quintiles who were enrolled in school and who were exposed to media at least once a week, and poor-to-rich ratio, by country

Region and country	Enrolled in school				Exposed to media			
	Population average	Poorest	Richest	Poor-to-rich ratio	Population average	Poorest	Richest	Poor-to-rich ratio
Asia								
Bangladesh	33.8	9.2	56.8	0.2	55.8	25.1	89.4	0.3
India (Rajasthan)	10.3	3.3	40.9	0.1	31.9	5.6	81.1	0.1
Nepal	25.0	9.8	53.3	0.2	38.1	17.4	72.6	0.2
Turkey	26.9	9.0	59.8	0.2	35.8	15.7	68.8	0.2
Sub-Saharan Africa								
Chad	13.1	3.2	33.5	0.1	24.7	4.3	79.4	0.1
Guinea	u	u	u	u	47.7	14.8	91.4	0.2
Kenya	30.5	27.4	27.0	1.0	70.0	38.8	93.6	0.4
Niger	47.6	14.9	73.1	0.2	60.0	39.3	89.1	0.4
Nigeria	49.6	17.3	72.0	0.2	59.9	23.2	95.5	0.2
Tanzania	9.7	7.5	16.9	0.4	27.6	6.5	49.4	0.1
Latin America								
Bolivia	63.8	28.8	79.3	0.4	93.2	72.4	99.8	0.7
Nicaragua	40.9	10.8	67.8	0.2	92.0	67.5	99.5	0.7

Notes: Difference between the poorest and richest quintiles for school enrollment statistically significant at $p<.05$ for all countries except Kenya. Difference between the poorest and richest quintiles for media exposure significant at $p<.05$ for all countries. u=unavailable.

ple, the poorest quintile in one country may be at a higher wealth level than the poorest quintile in another country. Although significant differences were observed between wealth quintiles within all 12 countries, the context of adolescents' socioeconomic status may vary from one country to another.

Data from almost all countries reveal widespread socioeconomic differentials in reproductive health outcomes and service utilization. Young women in the poorest households were less likely than those in the richest households to be enrolled in school, to use modern methods of contraception, to have given birth with a trained attendant present and to know at least one way to avoid contracting HIV; they were more likely to have gotten married by age 18 and to have had a child by that age. These findings suggest that young women from poor and wealthy households can be seen as two different groups or market segments that vary with respect to reproductive health context and access to information and services.

The poor-to-rich ratios for reproductive health outcomes were smaller in the poorest regions of the developing world (South Asia and francophone Sub-Saharan Africa) than in relatively wealthy countries, mainly due to higher proportions of negative health outcomes among the richest women in very poor countries than among those in wealthier countries. However, poor-rich differentials in use of maternal health services tended to be wider in the poorest countries. This implies that socioeconomic differentials in the poorest countries will widen over time—as outcomes in the wealthy quintiles improve with increased service utilization—unless efforts are made to achieve comparable increases among the poorest segments of the population.

The significant socioeconomic differences observed in young women's use of reproductive health services suggest that the current programmatic approaches in these 12 countries have not succeeded in reaching the poorest young women, serving their specific needs, or addressing the social, cultural and economic obstacles they face in using health services. For programs to be effective, their content and service delivery strategies must be designed to account for socioeconomic context. Poor young women are often illiterate, unemployed, living in rural areas and removed from social networks; they are thus less easily reached than other young women by programs that rely on mass media, clinics or schools to deliver services.

In addition, poor young women are more likely than their wealthy counterparts to be married and to lack economic autonomy, and may be less likely to gather in such fixed places as schools and youth centers. As data from Bangladesh and India suggest, married women in South Asia are likely to be controlled by their husband or their husband's family, to have limited mobility outside their home and to exercise little power in making decisions about their own health.[7] Therefore, clinic-based and peer-group strategies may not be an effective way to reach disadvantaged women in such areas; rather, appropriate service delivery modes for the poorest segments of the population may include community-based outreach projects that target special groups of poor young women and focus on particular regions.

Community-based programs bring services to people in their local setting and are usually designed in ways that involve young people, parents, and political and religious leaders, an approach that often reduces opposition to youth-friendly services. Community-based organizations have played an important role in mobilizing efforts at the local level and in serving the poor, including poor adolescents. Youth development programs that, in addition to providing reproductive health information and services, address a wide range of needs (e.g., life skills, literacy, vocational training and livelihood activities) have been more successful in reaching poor youth than other types of programs. For

example, the Better Life Options project in India successfully empowered young women through literacy classes and links with formal education and vocational training.[8] Participants had better reproductive health outcomes than their peers who were not enrolled in the program: They married later, had fewer children, earned income through employment and had more self-confidence.

Socioeconomic differentials in adolescents' knowledge of HIV prevention may be attributed in part to current programs' reliance on forms of mass media that are less accessible to poor young women. This implies a need for special HIV/AIDS programs that use alternative strategies to reach poor youth. One effective strategy may be community-based outreach, which has been used in a Brazilian project that explicitly targets disadvantaged adolescents by focusing on poor residential areas.[9] In Bombay, India, a special program for commercial sex workers succeeded in improving knowledge and slowing the spread of HIV/AIDS among a particularly poor and socially marginalized group of young women (80% of the participants were aged 12–25).[10]

The findings on contraceptive use and unintended births may reflect, among other social and economic factors, a greater acceptance of early childbearing among the poorest adolescents than among youth from the wealthiest households. Cultural and psychosocial barriers within communities may prevent young women—especially those who are very poor—from using clinic-based reproductive health services even when they do exist. Therefore, programs that target poor adolescents not only must work to improve their access to services but also must address social norms that encourage early childbearing and may discourage poor young women from using contraceptives.

Low levels of maternal health service use and knowledge of HIV prevention in the poorest quintiles—despite an elevated need among these adolescents—suggest that the "inverse care law," first proposed by Hart in 1971, still exists in developing countries.†[11] National-level programs that use standardized content and uniform service delivery modes (e.g., national safe motherhood programs) often fail to account for wealth-based differences in the sociocultural contexts that affect young people's ability to obtain health services. Clinic-based approaches to contraceptive service delivery have not equalized contraceptive use across socioeconomic groups; poor women still lag behind their better-off counterparts, in part because they have less money at their disposal with which to pay for care and may encounter geographic barriers in reaching clinic sites. In addition, as a number of studies have shown,[12] poor adolescents may face disparaging attitudes from providers because of the social distance between poor patients and health care professionals. Alternative service delivery strategies that have been implemented in Bangladesh,[13] such as the use of female outreach workers and community-based distribution of contraceptives to young newlyweds, may explain this country's relatively high levels of contraceptive use, even among the poorest women. Delivering services to disadvantaged youth may require community-based outreach projects that are more expensive than traditional approaches and may not be justified by conventional cost-effectiveness analyses.

The findings of this study also have implications for program evaluation. Generally, programs are evaluated in terms of their effect on aggregate indicators in the population. For example, an assessment of a family planning program might show a 3% increase in contraceptive use over two years; however, all the change in the aggregate indicator may be due to improved use among wealthy groups. An evaluation of a media-based program may indicate that its messages on delaying marriage reached almost half of the population although the messages reached only the better-off segments of society. Future evaluations of adolescent health programs should be disaggregated by socioeconomic status or focus on the groups that are specifically targeted by the program.

Although trend data among adolescents show that young people's health and educational prospects are improving,[14] the distribution of this progress across different socioeconomic groups needs to be examined. Unequal distribution of the benefits of development and unequal access to various health services may lead to even broader gaps in reproductive health needs and outcomes among rich and poor adolescents; the risk of further "epidemiological polarization" has clear implications for health systems, which must seek to address the specific health needs of young people from different socioeconomic backgrounds.

†The "inverse care law" states that good medical care tends to be less readily available the more it is needed in a particular population. The theory is based on a study of resource allocation for health services in Wales, England, nearly 30 years before government policy began to address the situation (see reference 11).

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RESUMEN

Contexto: *El diseño y evaluación de los programas de salud para adolescentes por lo general no toman en cuenta las diferencias socioeconómicas con respecto a las necesidades en materia de salud reproductiva y la utilización de los servicios entre las mujeres jóvenes de los países en desarrollo.*

Métodos: *Se utilizaron datos representativos a nivel nacional de las Encuestas Demográficas y de Salud (EDS) correspondientes a 12 países en desarrollo para evaluar las diferencias socioeconómicas con relación a los resultados en materia de salud reproductiva y al uso de los servicios por parte de las mujeres jóvenes. Se realizaron pruebas de chi-cuadrado para cada país para identificar las diferencias estadísticamente significativas entre los quinteles más pobres y más ricos, los cuales se construyeron utilizando el índice de riqueza de los hogares.*

Resultados: *En la mayoría de los países, las mujeres jóvenes de los hogares más pobres eran más proclives a estar casadas a la edad de 18 años que sus pares que pertenecían a hogares más ricos y también a tener por lo menos un hijo a esa edad; eran menos proclives a informar que habían tenido un nacimiento no planeado, que practicaban la anticoncepción, que utilizaban los servicios de salud materna, y que estaban informadas acerca de cómo prevenir la transmisión sexual del VIH. La independencia económica, la registración escolar y la exposición a los medios de información fueron características menos comunes entre las adolescentes pobres que entre las ricas.*

Conclusiones: *Las adolescentes pobres pueden ser ignoradas por los modelos actuales de distribución de servicios que confían únicamente en los medios masivos, las clínicas o los centros de estudio. Se deben adoptar estrategias alternativas para satisfacer las necesidades de las jóvenes pobres, tales como programas de alcance y distribución a nivel comunitario.*

RÉSUMÉ

Contexte: *La conception et l'évaluation de programmes de santé pour adolescents tiennent rarement compte des différences socioéconomiques quant aux besoins de santé reproductive et à l'utilisation des services parmi les jeunes femmes des pays en développement.*

Méthodes: *Les données d'Enquêtes démographiques et de santé nationalement représentatives de 12 pays en développement ont servi à évaluer la différence socioéconomique dans les issues de santé reproductive et l'utilisation des services parmi les jeunes femmes. Pour chaque pays, les différences statistiquement significatives entre le plus pauvre et le plus riche des quintiles définis selon un indice de richesse des ménages ont été identifiées par tests chi carré.*

Résultats: *Dans la plupart des pays, les jeunes femmes des ménages les plus pauvres étaient plus susceptibles que celles des ménages les plus riches d'être mariées et d'avoir au moins un enfant avant l'âge de 18 ans; elles étaient moins susceptibles de déclarer une naissance inopportune, de pratiquer la contraception, d'avoir recours aux services de santé maternelle et de savoir comment prévenir la transmission sexuelle du VIH. L'autonomie économique, l'inscription à l'école et l'exposition régulière aux médias étaient moins fréquentes parmi les adolescentes pauvres que parmi les riches.*

Conclusions: *Les adolescentes pauvres sont vraisemblablement omises par les modes de prestation actuels limités aux médias, aux cliniques ou aux écoles. D'autres stratégies, telles que des programmes d'antenne dans les communautés, doivent être mises en œuvre pour répondre aux besoins des jeunes femmes pauvres.*

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