It’s a tale of two siblings that plays out hundreds of thousands of times every year in rural India. While her older brother completes his education and is given the opportunity to find work, a poor village girl in her midteens is married off to a much older man, ending all hopes of further education. Although her parents have her best interests in mind, their fear of her being sexually assaulted or becoming involved in a romantic relationship that would bring shame on the family leads them to feel that they have little choice. The girl becomes pregnant three times in quick succession.

The first pregnancy ends in premature labor, her immature pelvis and malnutrition causing problems. She hemorrhages as the baby emerges. Her in-laws have not called for a medically trained birth attendant—that is not their custom, and they deem the cost too great. The baby girl is sickly and underweight.

Within six months, the young mother is pregnant again, hoping this time to please her in-laws by bearing a son. Her baby boy comes so soon after his sister that he weighs even less and is plagued by diarrhea and cough. Her in-laws provide him all the care they can afford, but he dies anyway. Her in-laws press for another child as soon as possible.

For all her exhausted pleading, her husband refuses to consider birth control. He wants a son, a healthy one. Soon, she is pregnant again. Threats of violence and being cast out forge an invisible chain between her, her children, and her husband’s family.

continued
Child Victims
This girl's story, while a composite of many, illustrates a central point in the research of HSPH's Jay Silverman. When girls and women are devalued and mistreated, it is not only a question of their rights being violated. It is an issue of public health.

A PAINFULLY CLEAR PICTURE

“Our findings paint a clear picture,” says Silverman, HSPH associate professor of society, human development, and health. “From birth through motherhood, too many South Asian women and girls suffer from a life where being female deprives them of the most basic resources. This inequity is often enforced and maintained by violence—making them more likely to become ill and to die.”

“Young girls who suffer the health effects of child marriage and gender bias are often unable to change their circumstances. The power lies in the hands of the husbands and the in-laws, so they need to be the major targets of an intervention.”

—Jay Silverman, HSPH associate professor of society, human development, and health

For the last five years, Silverman’s research across South and Southeast Asia has included major epidemiological studies of the health status of women and children as well as qualitative work with hard-to-reach populations, such as sex-trafficking victims. The outcomes he reports—along with his efforts to change them—fit squarely into the United Nations’ Millennium Development Goals of improving child and maternal health.

Among Silverman’s findings:

• Abused pregnant women are more likely to suffer from complications such as excessive bleeding, to give birth prematurely, to deliver low-birth-weight babies, and to miscarry.

• Such women are more likely to be denied—by husbands and in-laws—skilled medical assistance during childbirth: a major risk factor driving maternal deaths.

• Infants and young children of women who are abused are more likely to suffer from life-threatening illnesses and to die. Female children are disproportionately affected, both in terms of illness and death.

• If an Indian husband physically and sexually abuses his wife, that abuse nearly quadruples her chances of being infected with HIV.

“We’re now working to quantify this impact across the Indian population,” Silverman says. “It’s shocking, but I believe critical for the world to understand that it appears that many thousands of girl infants and children have died across India—and likely elsewhere—because their mothers were themselves abused.”

ABUSIVE MEN = AIDS-INFECTED WOMEN

“Women who are abused by their husbands face double jeopardy in terms of their risk for HIV infection,” Silverman says, referring to the results of a study he published in the *Journal of the American Medical Association* (JAMA) in 2008. “An abusive man is more likely to be taking dangerous sexual risks outside of marriage, including patronizing commercial sex workers and not using condoms. He is also, probably due to higher levels of sexual violence in marriage, more likely to transmit HIV to his wife.”

Silverman’s work on multiple forms of gender-based violence has also led him to conduct work on the trafficking of women and girls for sexual exploitation. His research across South and Southeast Asia has found that the victims of trafficking are extraordinarily vulnerable to HIV infection. In a 2007 JAMA paper, he found that among younger girls forced into prostitution, almost two-thirds became infected with HIV within a short period. His further research indicates that this extreme risk is due to high levels of sexual violence perpetrated against young girls to maintain their silence and servitude.

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Changing Abusive Behavior—House By House

As Silverman and his Indian and U.S. colleagues study the health effects of cultural bias, they are also working to develop and test possible solutions. One is a pilot collaboration with an Indian philanthropy, the K.C. Mahindra Education Trust. It aims to study the effects of supported education on thousands of girls from poor, illiterate families, beginning at age 8.

Another effort partners with India’s National Institute for Research in Reproductive Health (NIRRH) to expand the role of “Community Health Volunteers,” generally older women who go house to house dispensing health-related assistance. The pilot program will work with heads of households, trying to persuade them to improve the treatment that women receive during pregnancy. The health volunteers will argue that safer pregnancies are best for the family’s health, including the health of the future child.

Yet another project focuses on child brides, an issue that affects 60 million girls around the world, according to UNICEF estimates.

Child marriage fits into “the broad constellation of gender-based violence—the myriad ways in which women and girls are constrained,” Silverman says. It is a common practice not only in India but also in much of South Asia, including Nepal and Afghanistan, and in sub-Saharan Africa—all hot spots of high maternal mortality.

Silverman and his wife, associate professor Anita Raj of Boston University, are currently launching a $2 million, four-year project in a rural area of the Indian state of Maharashtra, where child marriage is so pervasive that the highest fertility rates are among 15- to 19-year-olds. The project is funded by both U.S. and Indian backers, including the National Institutes of Health and the Indian Council of Medical Research. Its leadership is shared as well, between the Boston-based team and Indian scientists and specialists from the Population Council and the NIRRH. The project’s aim: to reduce the health risks of early marriage by targeting not the young brides but their young husbands.

As Silverman explains, “Young girls who suffer the health effects of child marriage and gender bias are often unable to change their circumstances. The power lies in the hands of the husbands and the in-laws, so they need to be the major targets of an intervention.”

The researchers plan to work through local traditional providers of health care, who are usually men. It will train them to counsel young married men about the benefits of better family planning, delaying childbirth, spacing of pregnancies, and getting access to a safe delivery.

It is by no means lost on Silverman that this is a modest, short-term solution to a deep and pervasive problem. But it is feasible, and scalable, and workable in a low-resource setting, he emphasizes.

“There are an awful lot of people’s lives on the line,” he says. The mortality statistics in India, a country of nearly 1.2 billion, bear him out. The rate of women dying in childbirth in India is 490 per 100,000 live births, compared with single digits in Europe and the United States. Of the 10 million children under 5 who die each year worldwide, two million are in India. “We can’t afford not to do all we can to hasten change,” he says.
And it is not only physical abuse that is linked with health problems. A new line of Silverman’s research in the slums of Mumbai suggests that nonviolent maltreatment, such as saddling a woman with a heavy workload, or allowing her only scraps from the table, also relates to a broad range of poor maternal health outcomes, and can amplify the effects of violence.

**RESEARCH ROOTS IN THE U.S.**

Though his work is now international in scope, Silverman’s interest in the public health consequences of abuse began very locally. Twenty years ago, in church basements and prisons across Massachusetts, he counseled hundreds of men who had committed heinous acts of violence, including murder and attempted murder, against their wives or girlfriends. Speaking directly with women who had suffered at the hands of these men, he says, “I came to realize that the most deep-seated and life-threatening inequality in this world was something present across almost every human society: men’s treatment of women and girls as less than themselves, and the violence that is often used to enforce this entitlement.

“This crime that plagues the lives of hundreds of millions becomes very personal each time I work with a girl or woman who has been brutalized,” he says. “The truth is, I cannot help seeing my mother, my wife, or my daughter in every face.”

**HOW TO CHANGE INGRAINED BIASES**

Only by altering the deeply ingrained preference in India and other countries for boys over girls will these forms of violence and abuse diminish, Silverman says. That means convincing families and communities that it is to everyone’s benefit to educate girls, in part because they can be earners and producers rather than economic burdens to be married off. Moreover, girls who are educated will be less vulnerable to abuse by their husbands and in-laws, meaning that they and their children are less likely to suffer a host of serious health threats.

“And what if girls and women were respected by their husbands and treated as partners rather than as servants? What if husbands and wives, jointly, decided to use birth control? What if husbands and in-laws made the health and care of pregnant women a priority, and ensured that they had skilled help during delivery?” he muses aloud.

Perhaps the deliveries of thousands of babies each year would be less life-threatening, and the babies would be healthier. And perhaps thousands of women and children in India each year would be less likely to end up as dire statistics reflecting an unjust fate.

Carey Goldberg is a Boston-based science journalist who has written for the Boston Globe, the New York Times, and other publications. She is co-author of the new book Three Wishes.