The Impact of Education on Health Outcomes

A new look at data from the 2005 Ethiopia Demographic and Health Survey

The 2005 EDHS was conducted under the sponsorship of the Ministry of Health and implemented by the then Population and Housing Census Commission Office (PHCCO) now merged with the Central Statistical Agency (CSA). The Ethiopia Health and Nutrition Research Institute (EHNRI) tested blood samples for HIV status.

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Table of Contents

About the Survey

2005 Ethiopia Demographic and Health Survey

The 2005 Ethiopia Demographic and Health Survey (EDHS) is the second in a series of national surveys conducted in Ethiopia. It is designed to measure levels, patterns, and trends in demographic and health indicators.

In the 2005 EDHS, a nationally representative sample of 14,070 women and 6,033 men from 13,721 households were interviewed. Overall, 96 percent of women and 89 percent of men who were selected in the sample agreed to be interviewed. This sample provides estimates for Ethiopia as a whole, for urban and rural areas of the country, for each of the nine regions, and for the two Administrative Council Areas of Addis Ababa and Dire Dawa.

The Ethiopia DHS provides data on fertility, family planning, maternal and child health, nutrition, malaria, HIV, and women's status. The background characteristics of women and men are also collected, allowing their health and demographic indicators to be compared to their age, residence, wealth, and educational level. This booklet looks exclusively at the relationship between education and demographic and health indicators.

Introduction

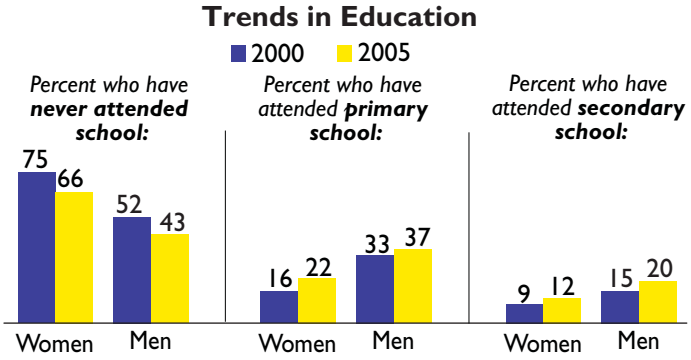
It is often assumed that improving the education of a population will improve their health outcomes. The Demographic and Health Surveys conducted in more than 90 countries have consistently shown a positive relationship between education and improved health and lowered fertility. But many questions remain: At what level of education among women and men does an improvement in health become noticeable? Is the relationship between education and health consistent across all health indicators? To what extent does a woman's education affect the health of her child? How can health messages reach men and women who are uneducated and illiterate? And now, in the age of HIV/AIDS, why are the most educated exhibiting the highest HIV prevalence?

In Ethiopia, the most educated women (those with secondary or higher education) usually are in the best health. However, only 12 percent of women have received this level of education. How, then, do other women fare? Do women with only a primary education experience marked improvements in health over those with no education? Answering these questions requires a more in-depth look at the relationship between education and health indicators in Ethiopia. Using data collected in the 2005 EDHS, this booklet provides an overview of education and literacy in Ethiopia, and then presents the major demographic and health indicators by the educational levels of the respondents, or, in the case of children's health, by the educational level of the mother.

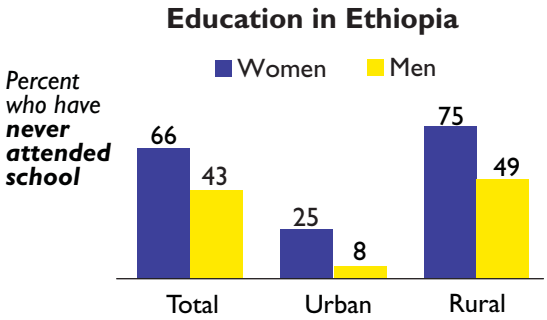
This analysis does not control for the confounding effects of urbanity, wealth, culture, or other related variables requiring more sophisticated statistical techniques, which is beyond the scope of this report.

Overview: Education in Ethiopia

According to the 2005 EDHS, two-thirds of women and two-fifths of men age 15-49 have never been to school. Only 12 percent of women and 20 percent of men have attended secondary school. Despite this low level of education, Ethiopians are better educated today than they were five years ago when three-quarters of women and more than half of men had no education. Although the gender gap in education is marked, it has in fact narrowed over the last five years.



Women and men living in urban areas are much more likely to attend school than those living in rural areas. Only one in four women in urban areas has never attended school compared to three in four in rural areas.



Education and Wealth

Education is strongly linked to wealth. Almost all of the men and women with secondary or higher education live in the wealthiest households in Ethiopia. Conversely, a large majority of the poorest households consist of men and women with no education.

Education by Region

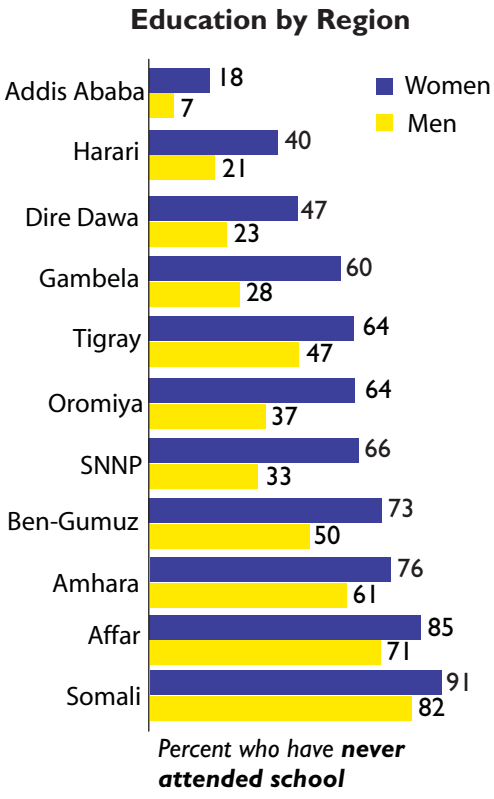
Education varies significantly by region. Not surprisingly, women and men in the cities of Addis Ababa, Harari, and Dire Dawa are most likely to attend school. Meanwhile, the large majority of women and men living in Somali, Affar, and Amhara have never attended school.

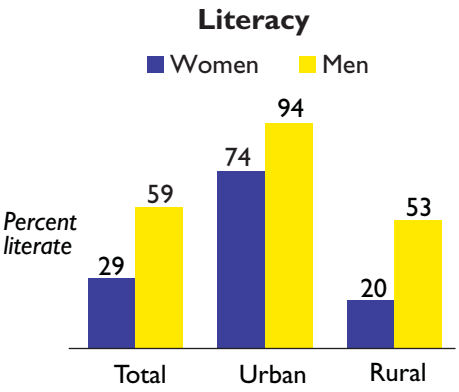
Literacy

Attendance in school is closely linked with literacy, and the ability to read is a tremendous advantage when trying to understand health information. Only about 30 percent of women and 60 percent of men are literate. Literacy is much higher in urban areas than rural areas.

Access to Mass Media

The media can play an important role in disseminating health information, and educated men and women are more likely to be exposed to the media. Of women with no education, only 14 percent listen to the radio weekly compared to 50 percent of those with secondary or higher education. Very few women read the newspaper regularly (4 percent of those with primary education and 14 percent with at least secondary).

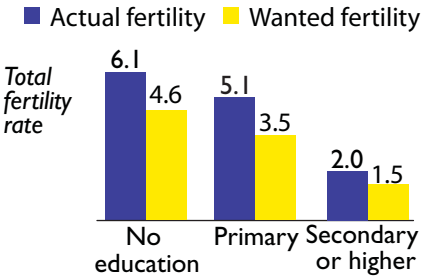




Fertility

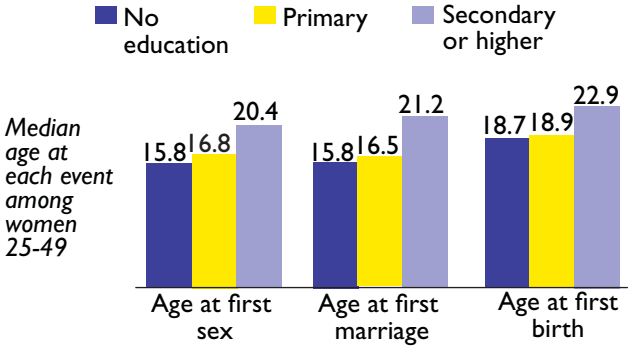
Education has a strong effect on fertility. Educated women often desire fewer children and are better able to achieve their wanted fertility. For example, the average Ethiopian woman with no education wants 4.6 children and has just over 6 children. In contrast, women with secondary or higher education want only 1.5 children and have an average of 2.0 children.

Fertility by Education



Education is also related to some of the most important determinants of fertility. Women with higher levels of education wait longer to initiate sexual intercourse, get married, and have their first child. Women with secondary or higher levels of education wait two and a half years longer than women with no education before having their first child.

Age at Sexual Debut, Marriage and First Birth by Education



Teen Pregnancy

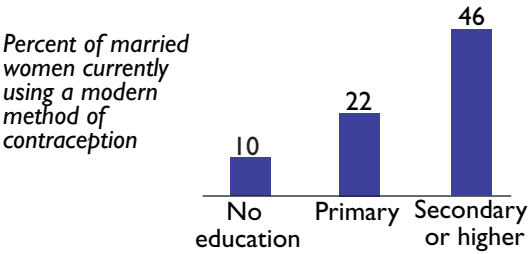
Young women who continue attending school are far less likely to marry young and become pregnant as teenagers than their uneducated peers. Almost 30 percent of young women age 15-19 who have never attended school have already begun childbearing, compared to only 10 percent of women with primary education and 3 percent of the young women who attended secondary or higher education.

Family Planning

Use of Family Planning

On average, 14 percent of married women use a modern method of family planning. Use is much higher among those who are more educated—almost half of married women with secondary or higher education are currently using a modern method of family planning compared to one in five women with primary education and one in ten with no education.

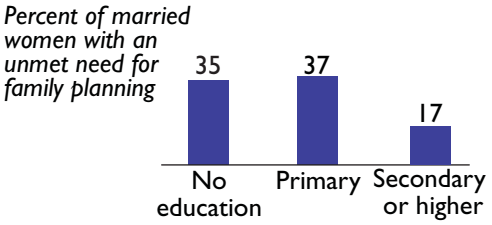
Family Planning Use by Education



Unmet Need for Family Planning

Women who want no more children or want to wait at least two years before their next birth but are not currently using family planning are said to have an unmet need for family planning. Women with secondary or higher education are half as likely as less educated women to have an unmet need. At the same time, educated women with primary and secondary or higher education are nearly twice as likely and more than three times as likely, respectively, to have their demand for family planning satisfied. That is, highly educated women are better able to meet their family planning needs than less educated women.

Unmet Need for Family Planning by Education



Maternal Health

Antenatal Care

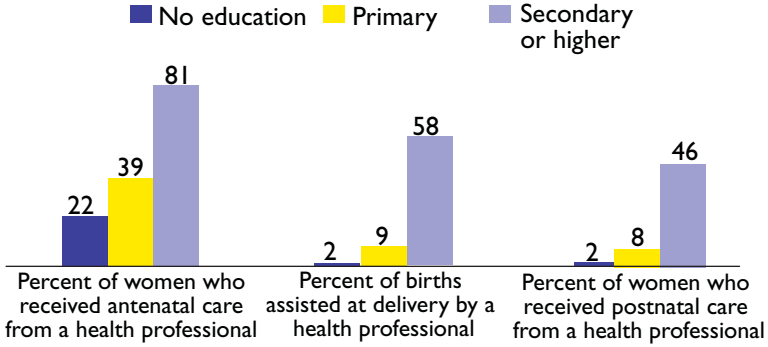
Only about one-quarter of Ethiopian women with a birth in the five years before the survey received antenatal care from a health care professional. However, educated women are much more likely to have access to antenatal care than women with little or no education. For example, 81 percent of women with secondary education or higher received professional antenatal care compared to only 22 percent of women with no education.

Educated women are also more likely to receive the various components of antenatal care. Almost a quarter of women with secondary or higher education took iron tablets, compared to less than 10 percent of women with no education. Well educated women were also more than twice as likely to be informed of signs of pregnancy complications as women with no education (56 percent versus 25 percent). Well educated women were more likely to be weighed, have their blood pressure measured, and have urine and blood samples taken than less educated women.

Tetanus toxoid injections are a crucial intervention to prevent neonatal tetanus. Almost 60 percent of women with secondary or higher education received at least two doses of tetanus toxoid injections, compared to 40 percent of women with primary education and only 24 percent of women with no education.

Pregnant women should also receive HIV counselling and be offered HIV testing. Only 2 percent of women with no education received HIV counselling during antenatal care compared to 24 percent of women with secondary education.

Antenatal, Delivery and Postnatal Care by Mother's Education



** among births in the 5 years before the survey*

Delivery Care

Nationally, only about 5 percent of women deliver in a health facility. However, more than half of women with secondary or higher education deliver in a health facility. In contrast, 97 percent of women with no education and 91 percent of women with primary education deliver at home. This is due, in part, to the fact that educated women often live in urban areas where health care facilities are available and accessible, while less educated women tend to live in rural areas where there is less access to health facilities for delivery.

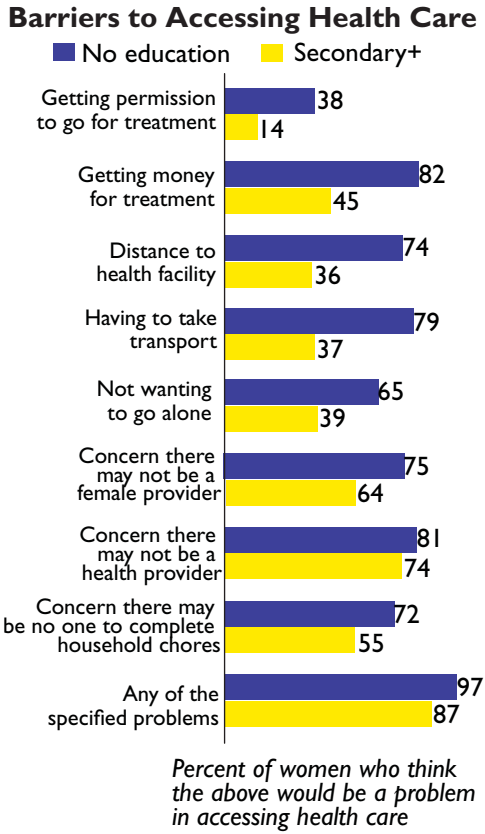
While only 6 percent of births are assisted by a medical professional, 58 percent of births receiving professional assistance are to women with secondary or higher education. Births to women with little or no education are more likely to be delivered with the assistance of a relative or other medically untrained person.

Postnatal Care

Doctors recommend that women receive a postnatal checkup within two days of delivery. Fewer than 5 percent of Ethiopian women receive a postnatal check up within the first two days. However, almost half of women with at least secondary education receive a postnatal check up from a health professional, in contrast to 7 percent of women with primary education and 2 percent of women with no education.

Barriers to Accessing Health Care

Almost all Ethiopian women express concerns that they will have trouble accessing health care. Educated women are less intimidated seeking health care for themselves and are therefore more likely to overcome barriers to accessing health care. For example, two-thirds of uneducated women are reluctant to go alone to seek care in contrast to just two-fifths of highly educated women.

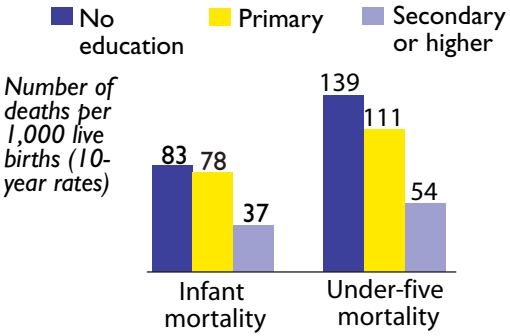


Child Health

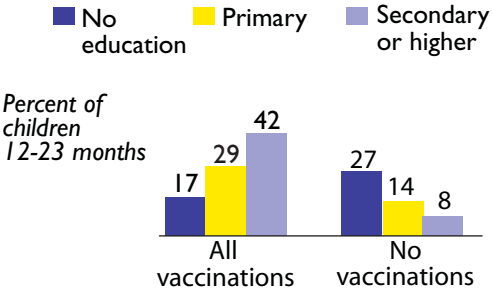
A woman's education has a tremendous impact on the health of her children. Children who are born to mothers with no education are more than twice as likely to die in infancy as those born to mothers with secondary or higher education. Children of uneducated women are almost three times as likely to die before the age of five as those born to highly educated women.

Childhood mortality is lowest among those whose mothers are well educated, in part because these children are also more likely to be fully vaccinated. Children whose mothers have had secondary or higher education are almost three times as likely to have received all the recommended vaccinations as those whose mothers never attended school. Similarly, more than one quarter of children of uneducated mothers have not received any of the recommended vaccinations, compared to only 8 percent of children of highly educated mothers.

Childhood Mortality by Mother's Education



Childhood Vaccinations by Mother's Education



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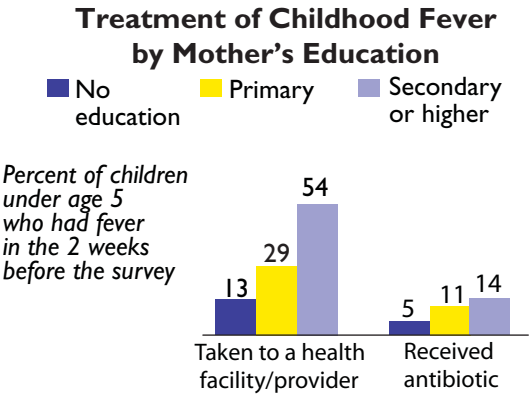
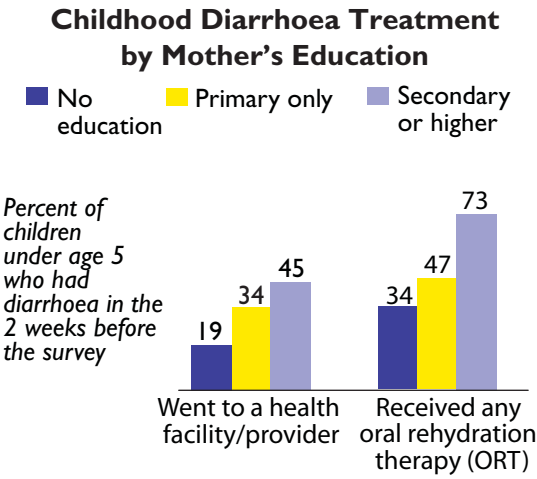
Common causes of childhood deaths can be easily prevented and treated. Education empowers mothers to seek professional care outside the home and better follow recommended treatments for their sick children. Children whose mothers have secondary or higher education are most likely to be taken to a health provider/facility for fever, diarrhoea, or acute respiratory infections, and are most likely to receive the recommended medications and treatments.

For example, among children under age five with fever in the two weeks before the survey, children of mothers with primary education were more than twice as likely to be taken to a health facility or provider for treatment and receive antibiotics than children of mothers with no education.



Similarly, children of highly educated mothers are more than twice as likely to be seen at a health facility or by a provider for treatment of diarrhoea and given oral rehydration therapy (ORT) than children of uneducated mothers.

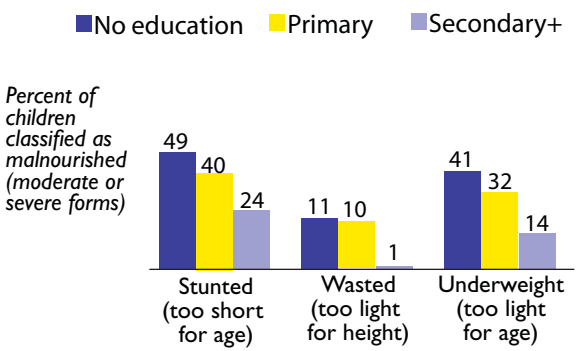
Children of primary-educated mothers who showed symptoms of an acute respiratory infection were almost twice as likely to be taken to a health facility or provider than children with uneducated mothers.



Children's Nutrition

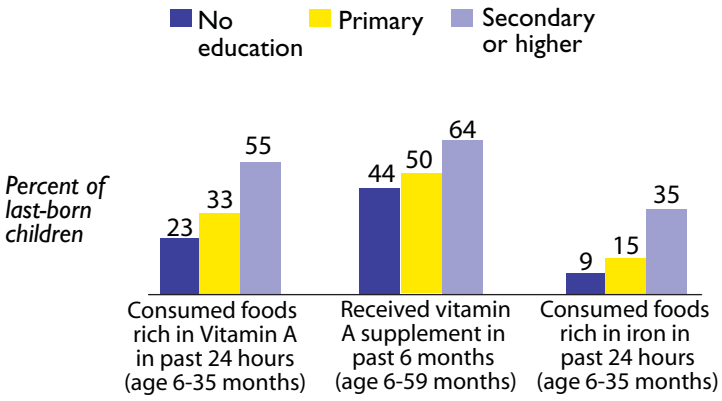
Children's nutritional status is highly correlated with mother's education. Children whose mothers have secondary or higher education are least likely to be stunted, wasted, or underweight. For example, only 14 percent of children whose mothers are highly educated are underweight compared to 41 percent of children whose mothers have no education.

Children's Nutritional Status by Mother's Education



Children of well-educated mothers fare much better in terms of receiving the necessary micronutrients. They are more likely to eat foods rich in vitamin A and iron and are more likely to receive vitamin A supplements than children whose mothers have no education or only primary education.

Micronutrient Intake among Children



Anaemia among Children and Women

Children of uneducated mothers are slightly more likely to have anaemia than children of highly educated mothers. At the same time, women with secondary or higher education are at significantly lower risk of anaemia than their less educated counterparts.

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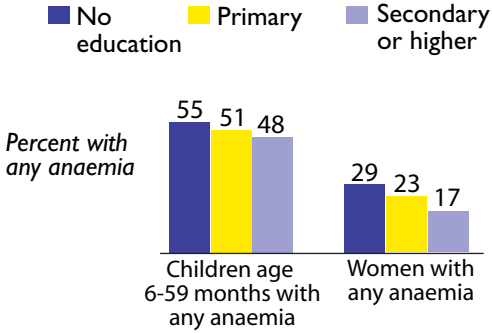
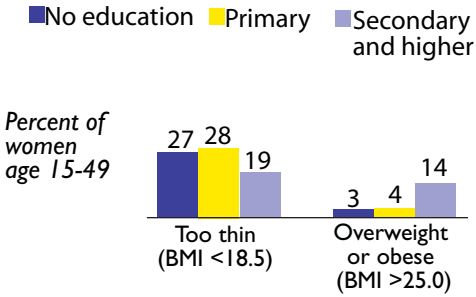
Anaemia among Children and Women by Mother's Education



Women's Nutrition

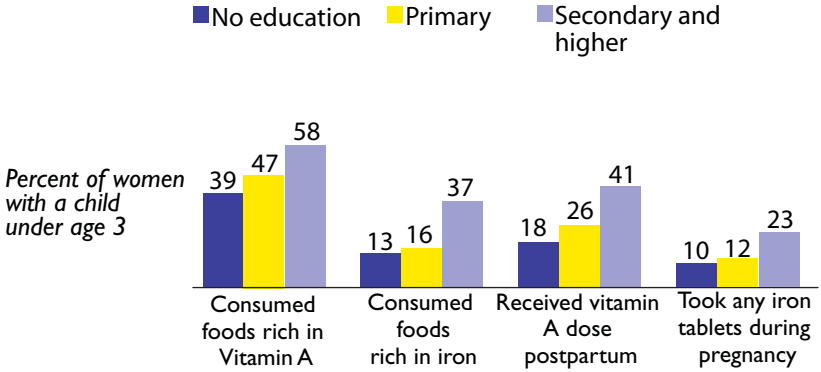
Educated women are less likely to be underweight than uneducated women. However, women with secondary or higher education are far more likely to be overweight or obese than their less-educated counterparts.

Women's Nutritional Status by Education



Well-educated women are more likely to eat a micronutrient-rich diet than those who are not educated. Uneducated women, like their children, are least likely to consume foods rich in vitamin A or iron, and less likely to receive the recommended supplements of vitamin A after pregnancy or iron during pregnancy. These simple nutritional interventions can prevent major health problems for both the woman and her child.

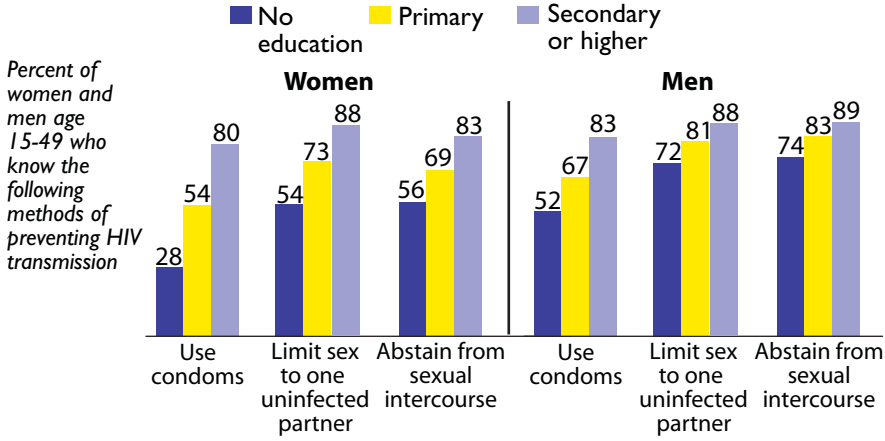
Micronutrient Intake among Women



HIV Knowledge

Almost all Ethiopians have heard of HIV/AIDS. However, knowledge of specific prevention methods varies greatly by education. Eighty percent of women with secondary education, for example, know that condoms prevent HIV transmission compared to only 28 percent of women with no education.

HIV Prevention Knowledge by Education



Knowledge of mother-to-child transmission (MTCT) of HIV is also much higher among those with secondary or higher education than among those with little or no education. For example, only 12 percent of women with no education know that the risk of MTCT can be reduced if the mother takes special drugs during pregnancy, compared to 63 percent of women with at least secondary education.

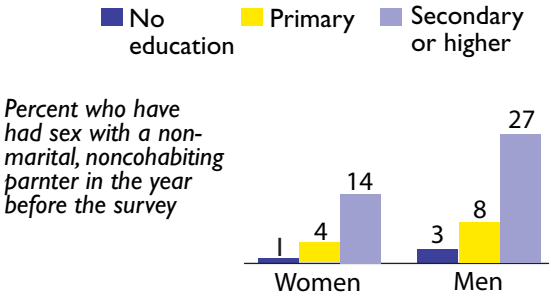
Well educated women and men are less likely to have misconceptions about HIV/AIDS than their less educated counterparts. Twice as many highly educated women know that a healthy looking person can have HIV than uneducated women (84 percent versus 41 percent).

Women and men with secondary or higher education also express much more accepting attitudes towards those living with HIV/AIDS. More than two-thirds of highly educated women would buy fresh vegetables from a shopkeeper who has the AIDS virus compared to only 9 percent of women with no education. The same pattern is seen among men.

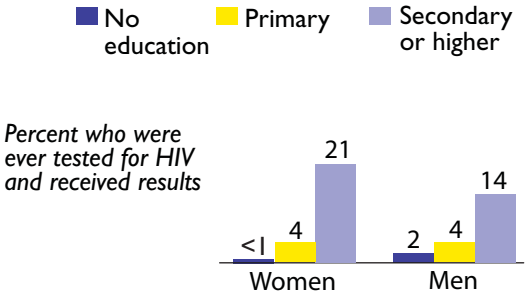
Risky Sexual Behavior

Although well educated men and women have more knowledge about HIV prevention, these same men and women are also more likely to engage in risky sexual behavior than their less educated peers. For example, more than one in four highly educated men engaged in higher-risk sex (sex with a nonmarital, noncohabiting partner) in the year before the survey compared to only 3 percent of uneducated men.

Higher-Risk Sex by Education



Prior HIV Testing



HIV testing is relatively rare in Ethiopia. Even so, highly educated women are twenty times more likely to have been tested and know their HIV status than uneducated women. Similarly, highly educated men are seven times more likely to be tested and know their HIV status than uneducated men.

Youth and HIV

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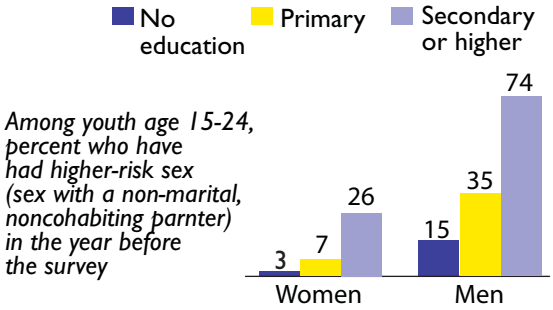
As expected, young people age 15-24 are far more likely to know about HIV prevention if they are educated. For example, over 80 percent of young women and men who have attended secondary school or higher know a source for condoms compared to only 13 percent of young women with no education and 31 percent of young men with no education.

Exposure to education also affects the behavior of young people. Over one-quarter of uneducated young women had sex before the age of 15, compared to only 4 percent of the young women who have attended at least secondary school. Condom use at first sex, though still rare, is also higher among those with at least secondary education.

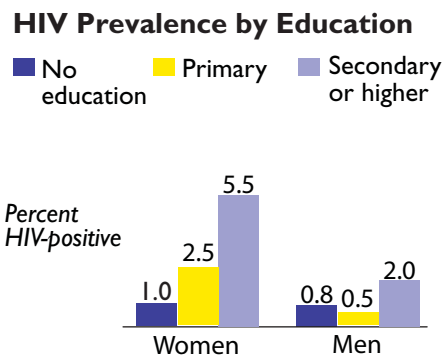
Unfortunately, higher-risk sex is also more common among the more-educated youth. One-quarter of young women with at least secondary education and almost three-quarters of young men with at least secondary education had higher-risk sex in the year before the survey compared to only 3 percent of young women and 15 percent of young men with no education.

Higher-Risk Sex among Youth by Education



HIV Prevalence

In most cases, well educated men and women have better health outcomes than their less educated peers. HIV infection is one exception: women and men with higher levels of education are more likely to be HIV-infected than their less educated counterparts. Ethiopian women with at least secondary education are more than five times as likely to have HIV than women with no education. This may be in part due to the higher levels of higher-risk sex experienced by the more educated group.



HIV prevalence is also highest among those living in urban areas (5.5 percent versus 0.7 percent in rural areas) and those in the wealthiest households (4.3 percent versus 0.5 percent in the poorest households). Education is highly correlated with both residence and wealth. That is, the most educated are more likely to live in urban areas and often belong to the wealthiest group. It appears that these factors work together to create a group that is at higher risk of HIV infection.

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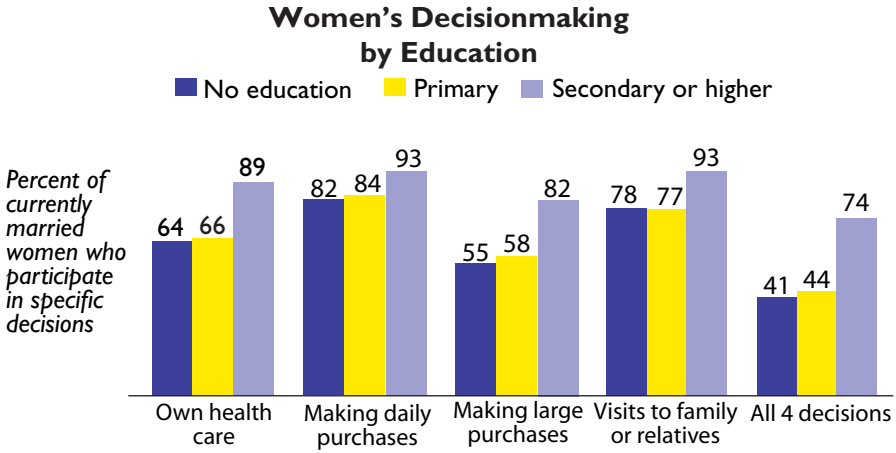
Women's Status

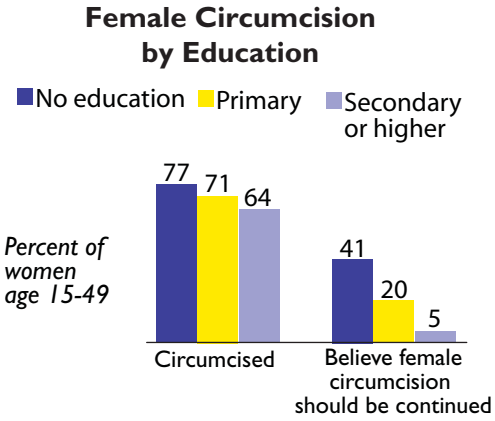
Information collected on women's status in the DHS reinforces the fact that education empowers women. Educated women are more likely to participate in household decisions and to be involved in decisions about how their earned wages are spent, their own health care, making large or daily purchases, or visiting family or relatives.



Educated women are also far less likely to believe that wife beating is justifiable. For example, only 24 percent of women with secondary or higher education believe that a man is justified in beating his wife if she burns the food. Two-thirds of women with no education believe that wife beating is justifiable in this specific case.

Educated women are also more likely to agree that women are justified in refusing sex with their husband under certain circumstances. For example, more than 90 percent of highly educated women believe that a woman can refuse sex with her husband if she believes that he has a sexually transmitted disease or if she knows he has sex with other women, compared to only 78 percent of women with no education.

Female Genital Cutting and Harmful Traditional Practices



Female genital cutting, also known as female circumcision, is a common practice in Ethiopia. Almost three quarters (74 percent) of women have been circumcised. However, circumcision is less common among the most educated than among those with no education (64 percent versus 77 percent). Women with secondary or higher education are also much less likely to have their daughters circumcised. Only 19 percent of the most educated women have at least one daughter circumcised compared to 41 percent of women with no education. Educated women are also much less likely to support female circumcision—only 5 percent of women with secondary or higher education believe the practice should be continued, compared to 20 percent of women with primary education and 41 percent of women with no education.

Educated women are also far less likely to support harmful traditional practices in Ethiopia. For example, 7 percent of women with secondary education or higher support the practice of uvulectomy/tonsillectomy and less than one percent support the practice of marriage by abduction. In contrast, 38 percent and 4 percent of uneducated women, respectively, support the continuation of these two harmful traditional practices.

Conclusions

Despite progress in the last five years, education continues to be quite low in Ethiopia. This proves to be a challenge for those working to improve health, because many uneducated women and men are not literate and do not have access to mass media, a major source of health information.

The relationship between education, fertility, and health is well documented. Educated women have fewer children, are more likely to use family planning, and receive better health care. Women's education also influences the health of her children. Well educated women have children who are less likely to die in childhood, less likely to face nutritional deficits, and more likely to receive appropriate care when sick. The data from the 2005 Ethiopia Demographic and Health Survey confirm that these relationships continue to hold true in Ethiopia. Thus, in most cases, reaching out to the least educated (who are also usually the poorest) will have the most impact on improving overall health.

HIV/AIDS, however, poses a new challenge. It had been assumed that well-educated men and women would be more knowledgeable about HIV and therefore less likely to contract the virus. This, unfortunately, has not been borne out in the data. Although well educated Ethiopians know more about HIV prevention than their less educated counterparts, they are actually more likely to engage in higher-risk sexual behavior. The result is that HIV prevalence is significantly higher among the well educated than among the uneducated. This calls for a change in thinking, as well as changes in programs and policy making. New interventions that focus on behavior change must also be designed for the well educated population.