

DHS data were analyzed for 11 countries (table G.1). DHS survey instruments are reasonably standardized across countries, allowing the same model specification to be used for different countries, albeit with some variations in variable definition. In each case only those households classified as rural were used. The sample size varied from 2,801 (child nutrition in Peru) to 17,165 (women in Indonesia).

Three different effects were examined using these data: first, how access to information from TV and radio influences health knowledge and so health behavior and health outcomes; second, how the availability of refrigerated storage improves nutrition; and third, how electricity affects schooling.

The causal chain for the first possible impact is as follows: (1) access to electricity increases time spent watching TV and listening to the radio; (2) increased access to media increases awareness of health issues; (3) this increased awareness results in changed health behavior; and (4) changed behavior improves health outcomes and reduces fertility. The empirical evidence relating to each of these points is discussed in turn.

Knowledge-Media Link

Two variables are used to measure health knowledge. The first is the response to the DHS question regarding knowledge of modern contraceptives. Women are asked to name modern contraceptive methods they know; the questionnaire records those they name against a list in the survey. The number of possible methods ranges from 0 to 12 (Ghana). The variable is simply the number of methods named. The coefficients are thus not comparable between the regressions.

The second knowledge variable is a simple average of four separate questions from the survey: (1) the contraceptive knowledge variable already mentioned, but scaled to be between 0 and 1; (2) knowledge of the timing of ovulation (0 = incorrect answer “do not know, any time, or middle of the periods,” 0.5 = “after period ends or before period starts,” and 1 = correct answer “middle of cycle”) (this question was not asked in Bangladesh, where instead a question was asked on knowledge of signs of a risky pregnancy); (3) knowledge of the symptoms of AIDS, scaled between 0 and 1; and (4) knowledge of oral rehydration salts.

The explanatory variables are the same in each case covering (1) household characteristics (housing index, education of household head, and whether the household has electricity); (2) individual characteristics (age, marital status, literacy, agency, and whether the women listen to the radio at least once a week and watch TV at least once a week); and (3) community characteristics (regional dummies and the share of women who have heard of family planning by family planning worker by cluster). The share of women visited by a family planning worker is a proxy for active health or family programs in the area. Most of these variables are self-explanatory, but some require a little discussion. A more general wealth index is not used, to avoid problems of endogeneity, and the housing index, together with education of the household head, may be regarded as an instrument for income.

Electricity appears as a variable in its own right, through the channels of affecting women’s access to TV directly and indirectly through someone else owning a TV (proxied by household electrification rate in the community). This channel is tested by

Table G.1: DHS Sample Sizes

Country	Survey year	Eligible women	Children under 5
Bangladesh	2004	7,536	4,835
Ghana	2003	3,317	2,801
Indonesia	2002–03	17,165	9,636
Morocco	2003–04	7,801	3,496
Nepal	2001	7,572	6,294
Nicaragua	2001	5,775	3,973
Peru	2000	10,749	7,467
Peru	2004	4,737	2,717
Philippines	1998	7,253	5,004
Philippines	2003	6,197	3,854
Senegal	2005	8,290	7,364

Source: DHS data.

running the regression with and without the variables capturing women's access to TV (direct and indirect). If a TV channel is the only one through which electricity affects knowledge, then the household electricity variable will be significant when the access to TV variables are dropped but significant when they are included.

The estimation method used is as follows: The contraceptive knowledge equations are estimated using an ordered probit, an extension of the binary probit model that is used in cases with multiple and ranked discrete dependent variables. The ordered probit model is of the form:

$$\begin{aligned}
 p_1 &= \Phi(\alpha_1 + \beta'x) \\
 p_{i>1} &= \Phi(\alpha_i + \beta'x) - \Phi(\alpha_{i-1} + \beta'x) \\
 &\dots\dots\dots \\
 p_k &= 1 - \Phi(\alpha_{k-1} + \beta'x),
 \end{aligned}$$

where Φ denotes the cumulative standard normal distribution function and p_i is the probability of the event i occurring; in this case it would denote that probability that women know i contraceptive methods. The health knowledge equations are estimated using ordinary least square.

The estimates for Peru and the Philippines are calculated from two rounds of the DHS, and data are

pooled across surveys, so estimates become more precise as they are based on a larger sample. This results in a nine-country analysis for each variable.

Most of the conditioning variables have the expected sign (tables G.2 and G.3). The better off and literate women have more health knowledge, as do those with higher mobility, control over decisions affecting their lives (agency),¹ and some urban living. For both contraceptive knowledge and health knowledge variables, TV is significant for all nine countries. The electricity status, in its own right, significantly increases both contraceptive and health knowledge in the Philippines and Indonesia and health knowledge in Bangladesh as well. When the regressions are run dropping the variable capturing access to TV as the source of information, then the household electricity coefficient is positive and significant for most of the knowledge equations.

Taken as a whole, the regressions provide sufficient evidence that access to TV increases health and family planning knowledge and that it is this that is the channel through which electrification affects health knowledge.

The next step is to examine the extent to which knowledge affects practice. Two health practice variables are examined: (1) use of modern