Reading and Understanding DHS Tables

Statistical tables can look intimidating at first glance. This flyer suggests ways to read and understand tables from the 2010 Malawi DHS.

Example 1: Knowledge of HIV Prevention Methods
A Question Asked of All Survey Respondents

Step 1: Read the title and subtitle. They tell you the topic and the specific population group being described. In this case, the table is about women age 15-49 in Malawi. This represents the entire female survey population.

Step 2: Scan the column headings—the top horizontal row. They describe how the information is categorized. In this case, each column represents one aspect of knowledge of HIV prevention methods that the women report having.

Step 3: Scan the row headings—the first vertical column. These show the different ways the data are divided up into categories based on population characteristics. In this case, the table presents women's knowledge of HIV-prevention methods by age, marital status, urban-rural residence, region of residence, educational level, and wealth. Most of the tables in DHS reports will be divided into these same categories.

Step 4: Look at the very last row at the bottom of the table. These percentages represent the totals of all women age 15-49 who know each method of HIV prevention. In this case, 72.0% of women age 15-49 know that using condoms reduces the risk of getting HIV, and 86.7% know that limiting sexual intercourse to one uninfected partner reduces the risk of getting HIV.

Step 5: To find out what percentage of women in the Southern Region know that using condoms and limiting sex to one uninfected partner reduces the risk of getting HIV, draw two imaginary lines, as shown on the table. This shows that 73.8% of women age 15-49 in the Southern Region know that using condoms and limiting sex to one uninfected partner reduces the risk of getting HIV.

Table 13.2 Knowledge of HIV prevention methods   [1]

Percentage of women age 15-49 who, in response to prompted questions, say that people can reduce the risk of getting HIV by using condoms every time they have sexual intercourse, by having sex with just one partner who is not infected and who has no other partners, by background characteristics, Malawi 2010

Background characteristic [3]	Using condoms[1]	Limiting sexual intercourse to one uninfected partner[2]	Using condoms and limiting sexual intercourse to one uninfected partner[1,2]	Abstaining from sexual intercourse	Number of women
Age					
15-24	71.1	84.9	65.0	77.6	9,559
..15-19	68.3	83.2	61.8	77.2	5,005
..20-24	74.2	86.8	68.6	78.1	4,555
25-29	75.6	89.6	70.9	81.8	4,400
30-39	72.7	87.9	67.3	80.9	5,772
40-49	68.3	85.9	63.0	78.4	3,288
Marital status					
Never married	68.7	83.6	62.4	78.4	4,538
..Ever had sex	76.2	87.9	71.4	81.2	1,415
..Never had sex	65.3	81.7	58.4	77.1	3,123
Married/Living together	72.6	87.6	67.4	79.3	15,528
Divorced/Separated/Widowed	73.7	86.7	67.7	81.0	2,954
Residence					
Urban	75.5	89.3	70.1	80.7	4,302
Rural	71.1	86.1	65.6	79.0	18,718
Region					
Northern	66.8	87.1	62.2	78.1	2,677
Central	65.9	82.9	59.7	75.8	9,857
Southern	79.0	90.1	73.8 [5]	83.1	10,485
Education					
No education	66.2	82.6	59.8	73.2	3,505
Primary	71.9	86.4	66.3	79.3	14,916
Secondary	76.7	90.4	71.6	83.7	4,177
More than secondary	77.6	95.8	76.3	87.9	422
Wealth quintile					
Lowest	68.7	84.2	62.7	76.0	4,268
Second	70.2	85.2	64.7	77.7	4,332
Middle	71.1	86.4	65.8	80.3	4,517
Fourth	73.7	87.4	68.2	80.6	4,515
Highest	75.2	89.6	69.8	81.6	5,388
Total 15-49 [4]	72.0	86.7	66.4	79.3	23,020

Practice: Use this table to answer the following questions (answers are upside down, below):

a) What percentage of women age 15-49 are aware that using condoms AND limiting sex to one partner reduces the risk of getting HIV?

b) In what age group are women most likely to know that using condoms reduces the risk of getting HIV?

c) Are urban or rural residents more likely to know that using condoms reduces the risk of getting HIV?

a) 66.4%; b) Age 25-29—75.6% c) Urban—75.5%

Example 2: Prevalence and Prompt Treatment of Fever
A Question Asked of a Subgroup of Survey Respondents

Step 1: Read the title and subtitle. In this case, the table is about two separate groups of children: (a) all children under age five and (b) children under age five who had fever in the two weeks preceeding the survey.

Step 2: Identify the two panels. First identify the columns that refer to all children under five (a), and then isolate the columns that refer only to the children under five who had fever in the two weeks preceeding the survey (b).

Step 3: Look at the first panel. What percentage of children under five had fever? It's 34.5%.

Now look at the second panel. How many children under five are included in this group? Only 6,214, or 34.5% of 18,013 children under five who had fever. The second panel is a subgroup of the first.

Step 4: This table shows that there were 18,013 children under age five included in the survey and of these children, 6,214 children had fever in the two weeks preceeding the survey. Once these children are further divided into the background characteristic categories, there may be too few cases for the percentages to be reliable.

Table 12.8 Prevalence and prompt treatment of fever [1]

Percentage of children under age 5 with fever in the two weeks preceding the survey, and among children under age 5 with fever, the percentage who took antimalarial drugs, and the percentage who took the drugs the same or next day following the onset of fever, by background characteristics, Malawi 2010

[2]	Among children under age 5:		Among children under age 5 with fever:		
	Percentage with fever in the two weeks preceding the survey	Number of children	Percentage who took antimalarial drugs	Percentage who took antimalarial drugs same or next day	Number of children
Age (in months)					
<12	34.9	3,717	32.1	20.5	1,296
12-23	40.9	3,774	47.3	31.2	1,545
24-35	37.0	3,675	48.1	30.5	1,359
36-47	31.4	3,471	44.9	29.7	1,091
48-59	27.4	3,376	43.9	29.0	924
Residence					
Urban	30.7	2,559	42.6	24.3	786
Rural	35.1	15,454	43.5	28.8	5,428
Region					
Northern	29.4	2,130	46.8	28.2	626
Central	38.1	7,749	44.4	28.8	2,954
Southern	32.4	8,134	41.4	27.7	2,634
Mother's education					
No education	34.1	3,068	41.7	27.4	1,045
Primary	34.9	12,227	44.0	28.4	4,271
Secondary	33.0	2,674	42.4	28.0	884
More than secondary	(33.3) [4]	44	* [4]	*	15
Wealth quintile					
Lowest	35.6	3,927	40.8	27.3	1,397
Second	34.8	3,896	42.5	26.9	1,357
Middle	37.4	3,924	44.9	28.2	1,469
Fourth	34.1	3,300	43.6	30.6	1,127
Highest	29.2	2,966	46.1	28.8	865
Total	34.5 [3]	18,013	43.4	28.2	6,214

Note: Figures in parentheses are based on 25 to 49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Note: When parentheses or asterisks are used in a table, the explanation will be noted under the table. If there are no parentheses or asterisks on a table, you can proceed with confidence that enough cases were included in all categories that the data are reliable.

For example, look to see the percentage of children under five who had fever in the two weeks preceeding the survey whose mothers have more than secondary education: 33.3%. This percentage is in parentheses because there are fewer than 50 children (unweighted) in this category. Readers should use this number with caution—it may not be accurate. (For more information on weighted and unweighted numbers, see Example 4.)

Look also to see the percentage of children under five with fever who took antimalarial drugs whose mothers have more than secondary education. There is no number in this cell—only an asterisk. This is because fewer than 25 children whose mothers have more than secondary education (unweighted) had fever. Results for this group are not reported. The subgroup is too small, and therefore the data are not reliable.

Practice: Use this table to answer the following questions (answers are upside down, below):
a) Which region has the highest percentage of children under five who had fever?
b) Among children whose mothers have more than secondary education, what percentage of children who had fever took antimalarial drugs the same or next day?

a) Central—38.1%;b) The number cannot be determined because fewer than 25 children whose mothers have more than secondary education (unweighted) had fever.

Example 3: Unmet Need for Family Planning
Comparing Data and Understanding Patterns

Step 1: Read the title and subtitle. In this case, the table is about unmet need for family planning among married women age 15-49 in Malawi.

Step 2: Scan the column headings—the top horizontal row. In this case there is only one variable, the percent of women with unmet need for family planning. This variable is divided into three sub-categories: unmet need for family planning for spacing (first column) or for limiting births (second column) and the total unmet need for both spacing and limiting births (third column).

Step 3: Scan the row headings—the first vertical column. These show the different ways the data are divided up into categories based on population characteristics. This table presents unmet need for family planning by age, urban-rural residence, region of residence, educational level, and wealth. The data in these categories will help you understand how unmet need for family planning varies throughout the country.

Step 4: Answer the following questions to understand how unmet need for family planning is spread throughout the population:

- What are the highest and the lowest percentages of total unmet need for family planning (range) within the regions? Unmet need for family planning ranges from 23.8% in Northern Region to a high of 27.0% in Central Region.
- Look for patterns: Does unmet need for family planning vary within specific populations? For example, is there a clear pattern of unmet need for family planning by wealth? By education? By age? You can also compare unmet need for spacing and limiting. Unmet need for family planning for spacing is highest among young women; in contrast, unmet need for family planning for limiting is highest among older women.
- Compare different groups: Do urban residents have a different unmet need for family planning than rural residents?

Step 5: What does all this mean? First, 26.1% of married women have unmet need for family planning. This means that the current national program is not meeting the needs of a large percentage of the population. Unmet need is high in all regions; programs should be widespread across Malawi. In addition, more intensive efforts are needed to reach women with little or no education and poorer women.

Table 7.3.1 Need for family planning among currently married women ⬜1

Percentage of currently married women age 15-49 with unmet need for family planning, by background characteristics, Malawi 2010

Background characteristic	Unmet need for family planning		
	For spacing	For limiting	Total
Age			
15-19	22.6	2.3	24.9
20-24	21.7	4.8	26.5
25-29	17.1	8.9	26.0
30-34	12.6	15.3	27.9
35-39	7.5	20.1	27.6
40-44	4.3	22.0	26.3
45-49	1.4	18.9	20.3
Residence			
Urban	11.4	12.2	23.5
Rural	14.8	11.9	26.7
Region			
Northern	14.6	9.2	23.8
Central	13.9	13.2	27.0
Southern	14.5	11.5	25.9
Education			
No education	11.0	16.6	27.6
Primary	15.3	11.7	27.0
Secondary	14.1	7.2	21.3
More than secondary	9.7	7.4	17.1
Wealth quintile			
Lowest	16.0	13.7	29.8
Second	16.1	11.7	27.7
Middle	16.2	10.7	26.9
Fourth	13.5	11.6	25.1
Highest	9.8	12.2	22.0
Total	14.2	11.9	26.1

Women who say either that they do not want any more children or that they want to wait two or more years before having another child and who say they are not using contraception, are considered to have an unmet need for family planning.

Example 4: Understanding Sampling Weights in DHS Tables

A sample is a group of people that have been selected for a survey. In DHS surveys, the sample represents the entire national population. Most countries want to collect data and report information both for the entire country and also for a country's regions or provinces.

DHS surveys are designed to provide these national and regional statistics. We want the sample surveyed in each region to resemble the actual population of that region, just as we want the national sample to resemble the actual population of the country. If the regions in a particular country vary in size and especially if some regions have very small populations, then a randomly-drawn sample may not include enough people from each region for analysis.

For example, let's say that you have enough money to interview 23,020 women for a survey that should be representative of both the regions and the entire country (as in the Malawi table to the right). In Malawi, the regions are not evenly distributed: some regions are more heavily populated (such as Central), while others have smaller populations (such as Northern).

Percent distribution of women age 15-49 by selected background characteristics, Malawi 2010			
	Women		
Background characteristic	Weighted percent	Weighted	Unweighted
Region			
Northern	11.6 **3**	2,677 **2**	4,189 **1**
Central	42.8	9,857	7,862
Southern	45.5	10,485	10,969
Total 15-49	100.0	23,020	23,020

A sampling statistician can determine how many women should be interviewed in each region in order to get reliable statistics. In the case of Malawi, the blue column (1) shows the actual number of women selected and interviewed in each region, ranging from 4,189 in Northern to 7,862 in Central region, and 10,969 in Southern region. With these numbers, there are enough interviews to get reliable results in each region.

With this distribution of interviews, some regions are overrepresented and some regions are underrepresented. For example, the population of Northern Region in 2010 was about 11% of the entire Malawian population. In contrast, the population of Central region in 2010 was approximately 40% of the Malawian population. But as the blue column shows, the number of women that the DHS survey interviewed in Northern Region (4,189) accounts for 18.1% of the total population of women interviewed (4,189/23,020). Conversely, the number of women that the DHS interviewed in Central Region (7,862) accounts for 34.2% of the total population of women interviewed (7,862/23,020). This does not accurately represent the population of Malawi.

In order to get statistics that are representative of the entire country, the distribution of the women in the sample needs to resemble the distribution of the women in the country. Women from a smaller region, like Northern, should only contribute a small amount to the national total. Likewise, women from a larger region, like Central, should contribute more. Therefore, DHS statisticians mathematically adjust or "weight" the number of women from each region so that each region's contribution to the total is proportionate to the actual population of the country. The numbers in the purple column (2) represent the "weighted" values. The total sample size of 23,020 women has not changed, but the distribution of the women in the regions has been changed to represent their contribution to the total population size.

How do statisticians weight each category? They recalculate the categories to reflect the real population of the country. If you were to compare the light red column (3) to the actual population distribution of Malawi, you would see that women in each region are contributing to the total sample with the same weight that they contribute to the population of the country. The weighted number of women in the survey now accurately represents how many women live in Central and how fewer women live in Northern.

With sampling and weighting, it is possible to interview enough women to provide reliable statistics at both the national and provincial level without distorting the overall distribution of the population within the country. In general, only the weighted numbers are shown in each of the DHS tables, so don't be distressed if these numbers seem low: they may actually represent a larger number of women interviewed. And remember, the table will use parentheses and asterisks to warn you if there are too few unweighted cases in any category.